(16,918.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1898.

No. 333.

WILLIAM WHEELER HUBBELL, APPELLANT,

vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

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JUDD & DETWEILER, PRINTERS, WASHINGTON, D. C., JULY 1, 1898.

United States Court of Claims.

No. 13,793.—*Filed April* 19, 1883.—*J. R.*

WILLIAM WHEELER HUBBELL

against

THE UNITED STATES.

PETITION.

To the Honorable the Judges of the Court of Claims:

The petition of William Wheeler Hubbell, now a resident of Appomattox county, State of Virginia, late of Philadelphia, Pennsylvania, and Washington, D. C., respectfully represents:

That your petitioner is a citizen of the United States; born on March 4th, 1821, at Philadelphia, Pennsylvania; your petitioner is the first and original inventor of an "Improvement in Cartridges," for which letters-patent of the United States were granted to him in due form of law, and according to law, dated and issued the 18th day of February, A. D. 1879, vesting in him the exclusive right to make, vend, and use the same for seventeen years from the date thereof.

That the said invention is of the kind known as centre-primed enclosed ammunition or cartridges for fire-arms, or rifles, carbines, and Gatling guns for infantry and for cavalry service. That your petitioner was the first and original inventor of the centre-primed enclosed cartridge, essentially the same in principle, as early as February 8th, A. D. 1842, the first in the world, with a machine-gun to use the same, the original specification of which was filed by him in the Patent Office of the United States on April 13th, 1865, on which day he also applied for letters-patent of the United States for his invention of the cartridge, constructed with a copper or metallic case, the original invention in 1842 being constructed

with a paper case. Your petitioner had made said invention of enclosed centre-primed cartridge at and before February 8th, 1842, to wit: In the year 1841, when he was experimenting with and inventing breech-loading fire-arms. Your petitioner notified the ordnance departments of the navy and army that he had made the said invention in cartridges and fire-arms as early as January 30th, 1843, and in 1845, 1846, 1847, and petitioned the Congress of the United States in December, 1845, to make provision for their introduction and adoption in the public service. But at that early day the United States resisted all efforts to change the system of muzzle-loading arms into breech-loading with primed ammunition. After the war of the rebellion, and after your petitioner had filed his application for a patent, filed April 13, 1865, to wit, in or about the month of June, A. D. 1865, your petitioner informed in person Colonel Stephen V. Benet, at the Frankford arsenal, of which he was then in charge, of this centre-primed cartridge invention of your petitioner, for which he had applied for a patent, claiming for it superiority over the rim-primed cartridges the United States was then making and trying at the said Frankford arsenal at Philadelphia county under his charge, and where the United States made ammunition for small or fire-arms. Your petitioner prosecuted his said application to appeal without avail, and continuously and repeatedly renewed his applications for a patent, under the rules and reglations of the Patent Office, allowing a limited examination only under each fee paid into the Treasury of the United States, until his patent was finally allowed and issued as stated in this petition. And your petitioner shows that he used all possible diligence, and incurred great and unusual expense, as required by law, in procurring his said patent.

Prior to the issue of the patent, and pending the application therefor, your petitioner filed a model of his invention with the chief of ordnance of the United States, of which a record remains in the ordnance official archives of the United States, to wit, on or about the 30th of May, A. D. 1872.

It was an important part of the practical application of said invention when the enclosing case was made of metal instead of paper, that the anvil-plate to enclose the fulminate should also be made of the same or kindred metal, either copper or copper alloy, avoiding tin or other decomposable metal or material which might develop a voltaic action and destroy the powder charge. All which peculiarities were contained in

the original application, and successive applications, and the patent of your petitioner. Pending your petitioner's applications, the United States tried various devices with tin and other metals for cartridges, all of which failed, and after the filing of your petitioner's model in the ordnance office his invention was adopted in the public service in pursuance of an act of Congress relating to breech-loading fire-arms, approved in July, A. D. 1872.

The United States under these circumstances, well knowing that the said invention was your petitioner's, and that he was endeavoring to secure his rights by grant of letters patent, made and used his said invention, whereby the United States promised and agreed to pay him a just compensation for his invention when he should secure the same by patent therefor, and your petitioner agreed to the same as manifested by his filing said model of his invention for adoption.

When the said letters-patent were granted and issued your petitioner exhibited the same, and gave information thereof to the chief of ordnance of the United States, and fixed the just compensation or royalty-rate at two dollars per thousand for each and every thousand of the ammunition or cartrides containing your petitioner's patent invention. And the United States well knowing of your petitioner's said patent and of said royalty charge which was not disputed as to justness of amount continued to manufacture and used his said patent cartridge to the number of many millions, and still continues to manufacture and use the said patented invention of your petitioner. Whereby the United States promised and agreed to pay to your petitioner a just compensation for its manufacture and use of his patented invention of said cartridge, to wit, the sum of two dollars per thousand, and suggested to your petitioner to establish the same by suit, alleging that such was now the practice in relation to patented inventions used by the Government.

Wherefore your petitioner charges and claims that the United States on this implied contract is indebted to your petitioner at the rate of two dollars per thousand for each and every thousand of his said patented cartridge made or used by the United States since the grant of said patent, and your petitioner charges and claims that the United States has made or used about five millions annually of his said patented cartridges, or twenty-five millions of his said patented cartridges since the issue of his said patent.

Your petitioner prays for an account of the full and entire

number of the said cartridges made or used since the issue of his said patent, to be separately stated when ordered.

Your petitioner claims a just compensation for the use or making of his said patented cartridge, to wit, he claims the sum of fifty thousand dollars due to him on this behalf by the United States up to the filing of this petition. And he prays for judgment for all use or making of his patented invention by the United States up to the time of rendition of such judgment at the rate of two dollars per thousand, or up to the time of accounting or proof of such making or use by the United States.

And your petitioner has always borne true and faithful allegiance to the United States Government, and he has not in any way voluntarily aided, abetted, or giving encouragement to rebellion against the said Government.

WM. WHEELER HUBBELL.

COUNTY OF CAMPBELL, } *ss:*
State of Virginia. }

I, Thomas L. Arrington, a justice of the peace, in and for the county and State aforesaid, do certify: That William Wheeler Hubbell personally known to me, appeared before me this day, and being duly sworn, deposes and says, that no assignment or transfer of his aforesaid claim, or any part thereof, or any interest therein, has been made, and that he said claimant is justly entitled to the amount therein claimed from the United States after allowing all just credits and offsets, and that he believes the facts as stated in said petition are true.

WILLIAM WHEELER HUBBELL.

Sworn and subscribed to before me this, the eighteenth day April, 1883.

TH'S L. ARRINGTON, [SEAL.]
J. Peace.

[Endorsed:] Court of Claims, No. 13,793; Wm. Wheeler Hubbell *vs.* The United States; manuscript petition; filed April 19, 1883; J. R.; Concord Depot P. O., Campbell Co., Virginia.

IN THE COURT OF CLAIMS OF THE UNITED STATES.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.
No. 13793.

AMENDMENT OF PETITION.

A manuscript petition having been filed in this case, and a reply of the Secretary of War received as to the numbers of cartridges made and used as inquired of under the orders of the Court, the petitioner amends his petition in detail as follows:

1st. That the United States has made and used of the "cup or inside anvil-pattern cartridge," in accordance with the invention of petitioner's patent and since the date thereof, the number of fourteen millions seven hundred and fourteen thousand and eighty-two cartridges, (14,714,082,) for which the United States is indebted to your petitioner, at the rate of two dollars per thousand, the sum of twenty-nine thousand four hundred and twenty-eight dollars and sixteen cents...$29,428 16

2d. That the United States within six years prior to the filing of the petition, and prior to the date of the patent, but subsequent to the date of application for the patent, made of the "cup" anvil pattern embracing your petitioner's patent invention, the number of five million three hundred thousand cartridges, of which there were used prior to the date of the patent the number of two million six hundred thousand, on which there is due to your petitioner, at the rate of two dollars per thousand, the sum of five thousand two hundred dollars, ($5,200.) And of said 5,300,000 cartridges there were on hand at the date of the patent and subsequently used the number of two million seven hundred thousand cartridges, on which there is due to your petitioner, at the rate of two dollars per thousand, the sum of five thousand four hundred dollars .....$5,400.

making together the sum of $10,600.

3d. That the United States since the date of the patent, has also further made and used up to the time of filing the petition, certain cartridges termed "reloading cartridges" containing your petitioner's patent invention to the number of three million eight hundred and sixty-six thousand three hundred

and fifty-two, (3,866,352,) on which there is due to your petitioner, at the rate of two dollars per thousand, the sum of seven thousand seven hundred and thirty-two dollars and seventy cents.....$7,732 70

4th. Making a total number of 23,880,434 cartridges, and a total sum due to your petitioner up to the time of filing his petition of forty-seven thousand seven hundred and sixty dollars and eighty-six cents.....$47,760 86

For which amount he prays judgment.

WM. WHEELER HUBBELL.

COUNTY OF CAMPBELL, } ss:
State of Virginia, }

On this the seventeenth day of May, A. D. 1883, before me a justice of the peace in and for the county and State aforesaid, came William Wheeler Hubbell, personally known to me, who, being duly sworn, says that he verily believes the United States is justly indebted to him in the foregoing sum claimed, free and clear of all credits and offsets, under the said patent for cartridges, and that he is the sole owner of said claim which amounts to the sum of $47,760.86 as stated in this his amendment of petition.

WM. WHEELER HUBBELL.

Sworn and subscribed to before me this the 17th day of May, 1883.

TH'S L. ARRINGTON, *J. P.* [SEAL.]

[Endorsed:] Court of Claims, No. 13793; Wm. Wheeler Hubbell *versus* The United States; let the amended petition be filed—W. A. R., May 18, 1883; amendment of petition in accord with reply of Secretary of War; petitioner moves for allowance; filed May 18, 1883—J. R.; Wm. Wheeler Hubbell.

IN THE COURT OF CLAIMS OF THE UNITED STATES.

WM. WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13,793.

ADDITIONAL AMENDMENT OF PETITION.

The Honorable the Secretary of War having supplemented his reply to the question Fourth of the call of the Court of April 26th, 1883, giving additional numbers of cartridges reconstructed, with numbers of primers made or used for such reconstruction and reloading of cartridges for repeated use, your petitioner claims that the United States, defendant, has further made for use, and used as required, for the reconstruction of cartridges for repeated use with metallic cases, the priming devices and principle of your petitioner's said patented invention, to the number of 9,373,700, of which 5,507,348 are in addition to the 3,866,352 before reported as completed reloading cartridges; and for which the United States agreed to pay on the implied contract set out in the petition. And thereupon your petitioner claims at the rate of two dollars per thousand the additional sum of $11,014.69 on the said 5,507,348 made or used for reconstruction of the cases into cartridges, making the total sum of $58,775.55.

Your petitioner, however, waives his claim to the $5,200 on the 2,600,000 cartridges both made *and used* before the date of issue of his patent, and deducts the same, leaving the sum of $53,575.55 due to your petitioner for cartridges made or used by the United States, defendant, since the issue of his patent, and for which he prays judgment in the sum—fifty-three thousand five hundred and seventy-five dollars and fifty-five cents ($53,575.55.)

2d. On page 3 of the original, the words "July, 1872" are amended to read "6th June, 1872, and adopted about May, 1873," and thereafter.

WM. WHEELER HUBBELL.

DISTRICT OF COLUMBIA, } ss:
County of Washington. }

On this the twenty-fifth of July, A. D. 1883, before the undersigned, John Randolph, Ass't Cl'k C. C., came Wm. Wheeler Hubbell, and being duly sworn says that he ver-

ily believes the United States to be justly indebted to him in the additional sum of $11,014.96, before claimed, making, after deducting the $5,200 waived, the sum of $53,575.55 justly due him as claimed, after deducting all just credits and offsets.

WM. WHEELER HUBBELL.

Subscribed and sworn to before me, this 25th day of July, 1883.

[Court of Claims' Seal.]

JOHN RANDOLPH,
Ass't Cl'k C't Claims.

Endorsed: In the Court of Claims of the United States. Wm. Wheeler Hubbell *vs.* The United States, No. 13,793. Additional amendment of petition in accordance with the supplemental reply of the Hon. Secretary of War, &c. Plaintiff moves for allowance. Wm. Wheeler Hubbell. Allowed July 25, 1883. W. A. R., Judge, &c. Filed July 25, 1883.—J. R.

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United States Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.

No. 13793. Filed October 2, 1884.—J. R.

Amendment of Petition.

Your petitioner, in amendment of his petition, and especially of that portion on page 3, from lines 22 to 33 inclusive, avers:

That the Chief of Ordnance of the United States and his assistants, and the officers and employees of the United States in the War Department and at the Frankford arsenal, duly authorized officers and employees of the United States to make the ammunition for the service of the United States, to wit: Stephen V. Benet, Chief of Ordnance, and Major Whittemore and Major Lyford, superintendents of the Frankford arsenal, belonging to the United States, and workmen employed for and paid by the United States, in making the said patent ammunition of your petitioner for the use of the Army of the United States, all as authorized by law, and well knowing of your petitioner's said patent and of said royalty charge, which was not disputed as to justness of amount, continued to manufacture and used his said patent cartridge to the number of many millions, and still continue to manufacture and use the said patented invention of your petitioner, whereby the said authorized officers and employees of the United States and the defendant promised and agreed to pay to your petitioner a just compensation for the manufacture and use of his patented invention of said cartridge, to wit: the sum of two dollars per thousand, and suggested to your petitioner to establish the same by suit, alleging that such was now the practice in relation to patented inventions used by the Government; and the duly authorized soldiers and officers of the United States, under the orders and directions of the proper officers, to wit: the Secretary of War and other officers in the service of the United States, did use and have for use in the Army service of the United States your petitioner's aforesaid patented invention of cartridge, manufactured as aforesaid at the Frankford arsenal, which is located at Frankford, Pennsylvania, by authority of the United States, as its arsenal or place of such manufacture.

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WM. WHEELER HUBBELL.

Sworn to and subscribed before me this second day of October, A. D. 1884.

[Seal of the Court of Claims.]

JOHN RANDOLPH,
Assistant Clerk Court of Claims.

11 Court of Claims.

WM. WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

Amendment of Petition.

The claimant, in view of the reply of the Secretary of War, filed December 8th, 1884, to the order of the court of November 3d, 1884, amends his petition as follows:

That the defendant, by its proper authorized officers and employees, made and used the number of 3,866,352 "reloading primers" in addition to the 5,507,348 before stated in his petition, making the number of 9,373,700 reloading primers with anvil, case, and fulminate for use, embracing claimant's patented invention, up to March 31st, 1883, in addition to the 3,866,352 completed reloading cartridges up to said March 31st.

That defendant, since March 31st, 1883, has further made and used of claimant's said patented invention as follows:

Of "cup-anvil cartridges" the number of 64,560.

Of "reloading cartridges" the number of 12,696,936.

Of "reloading primers," to reload cartridge cases, the number of 9,342,275.

All under the implied contract as before set forth in claimant's petition.

Making in all due to the claimant as follows:

For "cup-anvil cartridges," 17,478,642 in number, made and used since the date of claimant's said patent up to October
12 31st, 1884, at two dollars per thousand, the sum of $34,957.28.

For "reloading cartridges," 16,563,288 in number, made and used since the date of claimant's said patent up to October 31st, 1884, at two dollars per thousand, the sum of $33,126.57.

For "reloading primers" to reload cartridge cases, 18,715,975, made and used since the date of claimant's patent up to October 31st, 1884, at two dollars per thousand, the sum of $37,341.95.

Making a sum total of $105,515.80 due to claimant up to October 31st, 1884, under the implied contract set forth.

And the claimant thereupon prays judgment in this suit in the sum of one hundred and five thousand five hundred and fifteen dollars and eighty cents ($105,515.80).

WM. WHEELER HUBBELL.

COUNTY OF CAMPBELL, } *ss:*
State of Virginia, }

Sworn to and subscribed before me the subscriber, a justice of the peace in and for the said county and State, this the eleventh day of December, A. D. 1884.

THO. L. ARRINGTON, *J. P.*

(Endorsed:) Court of Claims. No. 13793. Wm. Wheeler Hubbell *vs.* The United States. Amendment of petition. Claimant moves for allowance. Wm. Wheeler Hubbell, claimant. Allowed Dec. 15, 1884. W. A. R.

13 In the Court of Claims of the United States, December Term, A. D. 1882.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

And now comes the Attorney General, on behalf of the United States, and answering the petition of the claimant herein, denies each and every allegation therein contained; and asks judgment that the petition be dismissed.

And as to so much of the said petition as avers that the said claimant has at all times borne true faith and allegiance to the Government of the United States, and has not in any way voluntarily aided, abetted, or given encouragement to rebellion against the said Government, the Attorney General, in pursuance of the statute in such case provided, denies the said allegations, and asks judgment accordingly.

THOMAS SIMONS,
Assistant Attorney General.

14 [Endorsed:] No. —. —— —— *vs.* The United States. General traverse. —— ——, assistant attorney general.

15 Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793. Substatement.

On the hearing of this cause and suggestion of the court in deference to defendant's counsel, the claimant in open court, without prejudice as to any of his rights, waived in this suit so much of the prayer of his amendment of petition, filed and allowed December 15, 1885 (pages 119, 120), as relates to cartridges and cartridge primers made subsequent to March 31, 1883, preceding a few days the filing of his original petition on April 19, 1883, reserving to himself the right of applying for compensation for those made since March 31, 1883, hereafter, under a new petition or otherwise, leaving at this time or in this suit, under the original petition and amendments, the cartridges and cartridge primers officially reported as made and used or for use between the issue of the patent February 18, 1879, and March 31, 1883, for payment which claimant states on the evidence as follows:

"Cup-anvil" cartridges made (page 67).....	14,714,082
"Cup-anvil" cartridges used (before made), page 67...	2,700,000
	17,414,082
"Reloading" cartridges made (page 67–69).....	3,866,352
"Reloading primers" for cartridges made (page 79, 210)	9,373,700

Computation of amount, 17,414,082 at $2 per thousand,	$34,828.16+
3,866,352 at $2 per thousand,	7,732.70+
9,373,700 at $2 per thousand,	18,747.40+
	$61,308.26

The total sum from February 18, 1879, to March 31, 1883, due claimant, as claimed, amounting to the sum of $61,308.26.

WM. WHEELER HUBBELL, *Claimant.*

(Endorsed:) Court of Claims. No. 13793. Filed April 20, 1885. J. R.

16 Court of Claims.

WILLIAM WHEELER HUBBELL
v.
THE UNITED STATES. } No. 13793.

Findings of Fact.

This case having been heard before the Court of Claims, the court, upon the evidence, finds the facts to be as follows:

I.

April 13, 1865, the claimant filed in the caveat archives of the Patent Office of the United States a specification and drawings alleged by him to describe "a gun to load and fire with great rapidity and effect." This caveat was prepared the 8th day of February, 1842. The gun described in the caveat was a breech-loading revolving gun, requiring the use of cartridges. The claim was for the invention of the gun, and also "the cartridge as set forth and firing it by means of a drill." In this cartridge a paper cylinder was employed in which the powder was inclosed with the ball above or before it; in the back or lower part of the cylinder was a chamber coated with varnish, filled with fulminate, and having an end covering to it; the cartridge was to be fired by a drill. No method of communication from the fulminate to the powder was provided, nor any mention made of an anvil.

II.

The same day, April 13, 1865, claimant also filed in the United States Patent Office, an application for letters patent upon what he described as a new and useful improvement in primed cartridges.

May 15, 1865, the letters patent were refused on the ground that the claim had been anticipated.

The application was then amended, and again refused, August 10, 1865, for lack of novelty.

The claimant appealed from this decision to the board of appeal or examiner-in-chief, and on November 17, 1865, two examiners-in-chief affirmed the decision, refusing the application.

The important parts of the invention as described in the specifications and the drawings annexed to them, filed April 13, 1865, with application, are as follows:

The invention is called a "new and useful improvement in primed cartridges."

The nature of the invention consists in taking the ordinary copper-flanged primed-cartridge case, which has a projecting flange on the rear and immediately outside of a level rear base or plate and outside of a cylindrical body, such flange connecting the cylindrical body with such rear base plate and adapted to arms having a flange recess at the rear of the charging chamber. And I dispense with the fulminate in such rim, and I compress and make thinner the center of the rear base plate to about half the surrounding thickness, and for a diameter or size of about a quarter of an
17 inch, and inside of the shell or plate, forming thereby a circular recess or chamber in the base or plate inside to hold fulminate and to present a thin striking face to a striker located in the rear of the shell or cartridge, and I insert inside of this shell, with its rim or edge extending into the rim of the shell, and firmly secured by such rim, a copper plate or anvil, perforated with one or more small vent holes in the anvil part opposite such thin or reduced center to inclose the fulminate, receive the blow of the striker as an anvil as it strikes onto the thin or reduced central part of the rear plate or base of the shell, and drives it forward where struck with the fulminate against the curved base of the center concave of the plate which surrounds a central hole or vent in it to form a base of resistance to explode it against, and to admit the fire directly forward through the center of the gunpowder of the cartridge. This is the best form of applying the invention, though two or more small holes to vent may be used, with the metal of the plate solid immediately opposite the center.

The advantages of this cartridge were described by the claimant in the said specifications, as follows:

The flange being filled up solid prevents it from stripping in extracting the shell. The fulminate being in the center (and not within the outer flange) makes it safer from accidental explosion. The concave plate secured by the outer rim, and is held by the groove in the gun, makes a firm base of resistance to the action of the striker to explode the fulminate. The central issue of the fire forward through the gunpowder ignites it uniformly and most quickly.

The applicant's claim was thus made:

What I claim as my invention is: Dispensing with the fulminate in the hollow rim of the ordinary cartridge case, having its rim

projecting around the rear flat base and beyond the cylindrical body of the shell, and then reducing the thickness of this rear plate or base in the center inside, and inclosing the fulminate in, and opposite this thinned center or recess by means of a perforated plate or anvil, held securely by its rim entering the hollow flange outside of the cylinder of the shell, to convert it into a center primed cartridge adapted to arms with a flange recess around the rear end of the charging chamber, such as those in which the shell was before used, or others similar, or adapting the striker to it, substantially as described.

In his appeal from the decision of the primary examiner the claimant alleged the following essential features which must necessarily all exist to develop the function of a proper explosion of the cartridge, namely:

1. A thinned central rear sufficiently and only large enough to present an annular striking face around the center hole of the anvil plate and opposite the central face of the anvil plate.

2. An anvil plate held by the surrounding projecting flange and flat with the rear plate up to the edge of the thinned part of such plate, and with a curved concave opposite the thinned part, and only opposite the thinned part, surrounding a central vent hole extending forward through the plate.

The construction of the anvil plate is peculiar and the construction of the thinned rear base is peculiar; both may have been separately known before, but they were never proportioned to each other and brought together to act in unison for the common purpose of producing a quick and certain ignition of cartridge and making it safe to carry; by combining an easy yielding rear face with a solid resisting anvil face properly presented and supported, and a small amount of fulminate with large ventage so as not to blow out or displace the anvil plate, and keep the base solid for easy extraction of the shell.

III.

The claimant, upon January 23, 1872, filed in the United States Patent Office an application for letters patent upon improved breach-loading metallic cartridges. After refusal and amendment letters patent were issued to him for the invention claimed by him in the following form:

I claim as my invention the within-described improved fixed ammunition for breech-loading infantry arms, consisting of an enlarged metallic case containing a charge of powder, an elongated solid and flat-based paper carrier fitting closely within said case, and carrying a smooth, solid, elongated, rearwardly tapering flat-based, subcaliber, leaden bullet, held and partially inclosed by the front end of the said carrier.

18 On this application a patent was issued for a subcaliber bullet with bullet paper-carrier.

The claimant filed, April 25, 1872, in the United States Patent Office, an application for a patent for "an improvement in the construction of primed metallic ammunition for breech-loading fire-

arms." This application was amended and refused. The specification as amended was as follows:

I, ——, have invented an improvement in the construction of primed metallic ammunition for breech-loading fire-arms, of which the following is a specification:

My invention relates to the construction of the base or rear end of the cartridge or metallic case, immediately adjacent to the rear of the powder chamber, to prevent the fulminate and powder, either or both, from decomposition by galvanic action or sweating, and to prevent the paper disk from burning, and prevent the metallic case at the flange from bursting; and to construct the cartridges with uniform similarity, and cheaper than heretofore, by means of a circular centrally perforated paper disk carrying the fulminate in its central perforation and secured between a circular metal plate similar in galvanic nature to the metal of the case, with an anvil or bridge piece in this circular metal plate over the fulminate, and one or two holes punched through it at one or both sides of the anvil face to admit the fire to the powder, and secured firm down on the paper disk by the pinched-in sides of the case over the middle plate to insure resistance to the fulminate.

Referring to drawings annexed to it, the specification proceeds to describe a metal case, to contain the powder charge, and the bullet or shot, or only the powder if desired. A circular paper disk about one-tenth of an inch thick fits tightly inside of the metal case against the metal base of the case, this paper disk to be perforated entirely through at its center, forming a chamber of uniform diameter open at both sides alike, and of about one-eighth of an inch in diameter. Into this chamber is put the fulminate when damp, coated on both sides with a solution of shellac and then placed into the case. Over this is placed a circular plate of the same kind of metal as the case or similar in galvanic nature so as to prevent galvanic action or decomposition. Two holes through which the fire from the fulminate reaches the powder are punched through this plate, leaving an anvil piece over the fulminate. The specification then proceeds:

Owing to this construction of a paper disk, between a metal plate and the base of the case, a much thinner body of paper, and a shorter metal case, suffices to secure, preserve, and explode the fulminate than is used when paper alone is employed in the metal base or case. There is also greater certainty of exploding the fulminate, and the paper is pressed more mechanically and tightly at the edges against the case, to exclude the gas and fire, and prevent the paper from burning and the shell case from bursting, while galvanic action and decomposition are also prevented; and sweating does not destroy the fulminate. The paper disk being perforated clear through, enables either side to be put next to the metal base and makes equally sure fire. Paper is the only material that will answer for this disk.

I am aware that a body of paper with a concave recess in the rear, containing fulminate, and sufficiently thick to enable the paper in a measure to resist the blow to explode the fulminate, has been suggested before this invention of mine, but it requires a longer

case than mine, and is not so certain to explode; and a paper disk alone so thin as mine, and taking up so little space, will not give sufficient resistance, nor will any paper disk when perforated through like mine, so as to apply either side next to the base, explode the fulminate without the metal plate or anvil. I am also aware that an anvil plate over a combustible-primed wad has also been suggested, but this does not exclude the gas from beneath the plate, at the edges or weak parts of the case, which my invention does accomplish.

But what I claim is—

The construction of an improved breech-loading metallic-primed cartridge case, consisting of circular metallic anvil perforated and secured by a bite of the case of the same metal, immediately in front of a circular paper disk centrally perforated through and carrying the fulminate in the central perforation, and tightly inclosed against the sides of the case at the flange, and between the metallic base and anvil plate, exclusively of the same metal, to avoid sweating, bursting, galvanic action, and to keep and present the fulminate and charge in the most serviceable manner, as described.

19 IV.

Another application, filed December 28, 1878, resulted in the issue to the claimant of letters patent No. 212,313, for an alleged new and useful improvement in cartridges. These letters were issued February 18, 1879. The right and title to them remains in the claimant. The amended specification upon which the letters were issued contains the following description of the invention:

UNITED STATES PATENT OFFICE.

WILLIAM W. HUBBELL, of Washington, District of Columbia.

Improvement in Cartridges.

Specification forming part of Letters Patent No. 212,313, dated February 18, 1879. Application filed December 28, 1878.

To all whom it may concern:

Be it known that I, William Wheeler Hubbell, of Washington and District of Columbia, have invented an improved metallic cartridge, and I do hereby declare that the following is a full, clear, and exact description thereof:

My invention relates to the peculiar construction of a circular metallic perforated plate, with the circular fulminate-carrier and solid fire-tight metallic case and head in one piece, as will be hereinafter more fully set forth and described.

Referring to drawings annexed to it the specifications proceed to describe the cartridge substantially as follows:

A cylindrical metallic-cartridge case or shell, with solid rear end in one piece therewith, both fire-tight; open only at the front end

to be primed and loaded at this front opening. Above and upon this solid rear end is placed a circular disk of paper, or any suitable substance, perforated through the center for the reception of the fulminate in this perforation or chamber. Above and upon this disk is placed a circular metallic plate closely fitting inside the case or shell; this plate is held in place by contracting or pinching the case or shell, which forces the plate down upon the disk and makes a tight joint around the edge of the plate. The plate has two perforations, one on each side of a center line drawn through its axis, sufficient space being left between the perforations to form the bar, which is of a breadth nearly equal to the perforation in the paper disk immediately over which it rests; above this metal plate is the powder chamber and above that the bullet. The specification further sets forth that the paper disk may be dispensed with by recessing or forming the fulminate chamber in the metal of the circular plate with a central anvil bar over the recess and a perforation on each side of the bar. The specification thus concludes:

The central anvil affords a firm resistance to a central striker acting on the center of the base, and compressing the fulminate to ignite it with certainty. The two side vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder.

The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder charge. In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber and fills it. The flange and head of the metallic case are solid, all in one piece. This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force, not in a central stream, but in a diffused body into the base of the powder charge. To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes. One is to diffuse the fire from this center most thoroughly. The other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force at once from beneath the anvil plate without any chamber or space for it to expand into under the plate. This insures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge from the base forward, as it impels the bullet out of the gun.

Having thus described my invention, what I claim as new and desire to secure by letters patent, is—

In the bottom of a solid metallic flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate, provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.

V.

The officers of the United States Army began in 1864 experiments for the manufacture of center-fire cartridges which led up to the "cup-anvil" cartridge adopted in 1868 and the reloading cartridge.

Prior to 1864 metallic, so called, "rim-fire" cartridges were used; in these cartridges the fulminate was contained in a hollow flange or rim around the base of the cartridge, and it was exploded by a blow from the hammer of the gun upon the exterior edge of this flange or rim. Among other patterns there were made and fired by said officers the following different kinds of center-fire cartridges:

In December, 1864, some ten or fifteen cartridges thus described: Interior, center-primed cartridges; priming (or fulminate) being held in place against the base or rear of the shell by a circular metal disk compressed by the walls of the shell; in the disk were two holes at the extremities of a diameter of the fulminate through which fire from the fulminate was communicated to the black-powder chamber of the shell; the entire area of the holes opened into the fulminate chamber and the portion of the metal disk between the holes served as an anvil to resist the blow of the hammer or firing pin; between the hammer and the anvil was placed the fulminate.

The fulminate in this cartridge was carried in an exterior bulb or chamber in the rear of the center of the base of the cartridge; this method of loading the fulminate was abandoned.

About the spring of 1865 the said officers manufactured and fired cartridges of the following description:

A center-primed cartridge, the priming of fulminate in a circular depression in the center of the base of the shell held in place by a circular piece of metal pressed down over it; fire to the powder charge communicated through two holes at the extremities of a diameter of the depression or pocket in the base of the shell, the entire area of these holes opening into the pocket and the portion of the metal between the holes serving as an anvil to resist the blow of the firing pin or hammer.

The Government continued the use of a center fulminate chamber having above it a disk with central anvil and two vents to the black-powder chamber, until the development, in 1868, of the cup-anvil cartridge, in which a cup was substituted for a single disk or for the combination of two disks. The cup is an improvement upon the disk or disks, in that a disk from its form is apt to be turned or misplaced in insertion, or loosened by blows from the striker, and must be fastened by crimping the walls of the shell near the flange where the walls are thickest; while a cup has from its
21 form greater rigidity as an anvil, its walls prevent it from turning while being inserted in the shell, and admit of its

being crimped in place where the walls are thinner. Being in effect a hollow cylinder it occupies less powder space in the shell for equal depth of cup and thickness of disk.

VI.

The "cup-anvil" cartridge is one of those alleged to be covered by claimant's patent. It is a center-primed cartridge, metallic case or shell, with a rim around the rear or closed end of the cartridge. The priming or fulminate is contained in a circular pocket in the exterior of the base of a metal cup; that is, into a cartridge shell, and resting upon its base is put a metallic cup with its mouth toward the black-powder chamber; the bottom of this cup projects upwards from the circumference towards the center, and the cup is forced down upon the solid base of the cartridge case or shell, and is held there firmly by crimping the walls of the case or shell over the edge of the cup at its open end. A circular pocket appears therefore in the exterior of the base of this cup and in this pocket, and between the cup and the closed end of the cartridge case or shell is placed the priming or fulminate. Fire is communicated from the fulminate to the black powder through two holes in the bottom of the cup at the extremities of a diameter of the said depression or pocket. The whole area of the apertures is over the fulminate chamber free to receive the flame, and their inner edges do not nearly coincide with the outer edge of the fulminate chamber. The portion of the top of the pocket or bottom of the cup between the two holes serves as the anvil to resist the blow of the hammer or firing pin.

This cartridge was adopted by the Government in 1868, and has since been continuously manufactured and used by it.

The "reloading" cartridge is another of those alleged to be covered by claimant's patent. This cartridge is a hollow metallic shell, rimmed around the base with a pocket in the exterior of the center of the base; through the center of the top of this pocket, supposing the cartridge to be stood upon its base or closed end, is pierced a single aperture or hole to carry the fulminate flame to the black-powder chamber. This cartridge contains only the black powder and the bullet. Any one of several different kinds of primers may be used in it; the one used by the United States and alleged to infringe claimant's rights is a circular metallic cup into which is put the fulminate; above this is fastened a disk or cover having a groove on its upper side, being the diameter of the circle; at each end of this groove a small piece or notch is cut out of it; through the holes thus formed the flame from the fulminate escapes; if this primer is placed in the chamber of the reloading cartridge, with the closed end of the cup outwards and the grooved end against the top of the chamber, the flame from the fulminate when exploded would pass through these holes or notches, thence along the groove to the central aperture in the cartridge case or shell, thence to the black-powder chamber through this single aperture. The entire area of each of the holes or notches in the disk is over the fulminate chamber; and the portion of the disk between the holes is the anvil.

22 VII.

The claimant, in July, 1872, notified the Chief of Ordnance of the United States of his letters patent, issued in April of that year, and asked that the cartridge therein described be tested. March 22, 1879, claimant notified the Secretary of War of his patent granted February 18, 1879, and asked allowance for royalty on future manufactures of the cartridge thus protected.

From March 1, 1879, to March 31, 1883, the United States manufactured 14,714,082 cup-anvil cartridges, and after February 18, 1879, used 2,700,000 theretofore made.

From February, 1879, to March 31, 1883, the United States manufactured 3,866,352 reloading cartridges, and 9,373,700 of the primers described in finding VI were manufactured from 1883.

VIII.

The cost of manufacturing the "cup-anvil" cartridge is $26 per thousand, the cost of manufacturing the reloading cartridge is $30 per thousand; a fair royalty would be 5 per cent. of the cost.

Conclusion of Law.

Upon the foregoing findings of fact, the court decides, as conclusion of law, that the petition be dismissed.

Opinion.

DAVIS, *J.*, delivered the opinion of the court:

The claimant seeks in this action, upon an implied contract (*McKeever v. The United States*, 14 C. Cls., 196; 18 C. Cls., 757; *Burns v. The United States*, 12 Wall., 246), to recover compensation for the manufacture and use by the United States Army of cartridges alleged to be an infringement of his patent issued in 1879.

As it is admitted that the Government cartridges were manufactured and used prior to the claimant's application for the patent in question, it would naturally be inferred either that the invention was not novel or that the Government cartridge does not infringe the rights secured by the letters patent. The claimant seeks to avoid this inference by showing that, although his rights first became enforceable upon the issue of the patent, he in fact is the first inventor, and he puts in evidence a number of applications made by him prior to 1879, as tending to establish this.

In an action for infringement, where the question of priority is raised, the claimant may go into such history of his efforts and achievements in the art as tend to show that he was in fact the first inventor of something afterwards patented by him, but as the letters patent form the basis of the action, an examination of the claimant's moral claims to priority is useless, unless he has protected his rights in the manner prescribed by law.

The claimant conducted his own cause before this court, and both

in his brief and in argument made broad claims as to his inventions in metallic cartridges, showing that for over forty years
23 he labored diligently for the improvement of fire-arms and ammunition, and that he early foresaw the necessity of substituting for the muzzle-loader with loose ammunition a safer and more efficient arm for warfare to be breech-loading with cartridges; this, however, is beside the issue, as his legal rights are shown, defined, and limited by his patents only.

The distinctive features of the patent of 1879 are set forth by the claimant as follows: "The fulminate (or priming), although the superior explosive force is contracted into a diminished or small central chamber and fills it. The flange and head of the metallic case are solid, all in one piece. This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge," so that the fulminate will diffuse its explosive force; "to effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer edges of this fulminate" for the purpose of diffusing the fire and retaining the central anvil. Claimed as new is "the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate, provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate."

Stated in another way, the distinguishing feature of the combination is a disk within a metallic cartridge, having an aperture in the center to receive the priming; over that a metallic disc having two vents drilled through it, by which the flame from the priming may reach the black powder placed immediately over this second disk, these vents to be so arranged that their inner edges shall nearly coincide with the wall of the fulminate chamber, that is, so that a portion only of their area shall open into that chamber and be free for the passage of the flame. This arrangement of the vents seems to obstruct the free escape of the flame and gas generated by the priming; the claimant, however, evidently deemed this position of the apertures material, possibly because it gives a larger diameter to the anvil.

The patent of 1879 is, therefore, for a combination made up of the circular base containing the fulminate, the anvil over it, with the apertures or vents placed as shown, and the position of these vents is material to the combination as described and claimed.

Turning now to the claimant's prior applications, through which he seeks to prove an early invention of the combination patented in 1879, we can lay aside as on their face irrelevant the applications and patent of 1872, as well as the caveat of 1842, and need to consider only the application of 1865. The invention described in this application consisted of the combination of a perforated anvil protruding upward into the shell, the edges held by insertion into the hollow flange or rim surrounding the base of the cartridge, with the closed end of the cartridge made thinner opposite the priming, which was contained in the chamber formed by the protrusion of the anvil upwards into the shell and the area cut out of the base.

In his specification the inventor stated that he preferred a central vent through the anvil, but suggested the possibility of using two or more vents, without, however, defining their position. This suggestion he abandoned upon appeal in the Patent Office, and relied upon the single central vent, laying stress upon the combination of the thinned base, the construction of the anvil plate and the central vent, all acting together to produce a safe and
24 quick explosion with a small amount of priming and large ventage. The claim of 1865 does not aid the patent of 1879, as it lacks the latter's distinguishing characteristics. In 1865 the claimant laid stress upon the combination of the thinned base with the anvil having a central vent, saying, "the central issue of the fire through the gunpowder ignites it uniformly and most quickly," while in 1878 he provided two apertures, as widely separated as possible, "so (to use the claimant's words) that the explosive force of the fulminate is not allowed to expand, * * * but is compelled to diffuse its explosive force not in a central stream, but in a diffused body. To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate * * * to diffuse the fire * * * and to have an unperforated anvil."

In 1865, therefore, the claimant aimed at quick ignition through concentrated fire, while in 1878 he sought the same result through diffusion of the flame. There are other differences between the application of 1865 and that of 1878, on which the patent in question was issued, which it is not necessary now to consider more fully, but which support our conclusion that the specification of 1865 does not cover the invention patented in 1874.

The Government cartridges alleged to infringe the claimant's rights are of two kinds, called the "reloading cartridge," and the "cup-anvil cartridge." The "reloading cartridge" is a solid flange metallic cartridge with a chamber indented from without into the center of the closed end or base to receive the primer; at the top of this chamber is a single aperture to convey the flame from the fulminate to the black-powder chamber immediately above. In this cartridge there are not two apertures, there is not a central or any anvil, there is no central fulminate chamber; in fact it is merely a metallic shell intended to hold powder and ball only, with a chamber in its base for the reception of a primer containing anvil and fulminate. The primer is entirely distinct and separate from the cartridge, nor is it necessary to use any particular kind of primer; the one complained of in this case consists of a circular metallic cup, into which is put the fulminate, and above it is fastened a metallic disk acting as an anvil; at either extremity of a diameter of this anvil is cut a notch or hole which shows its entire area into the priming chamber. When this primer is forced into the chamber in the base of the "reloading cartridge" the two vents come against the top of the chamber, and are closed by it; therefore a groove is made along the diameter of the top of the disk extending from one of the notches or vents to the other to allow the passage of the flame. When this primer is in its place in the car-

tridge, and the fulminate is exploded, the flame rushes through the notches or vents, and meeting the solid base of the shell follows the groove to the single central aperture through which it reaches the black powder in a single stream. Neither the combination of this shell and primer nor the combination distinguishing either the shell or primer singly is covered by the claimant's patent.

The "cup-anvil" cartridge is at first glance much more like the claimant's cartridge than the "reloader." It is a metallic solid flange shell, into which is placed a metallic cup, resting on the closed end or base of the cartridge. The mouth of this cup faces upwards towards the black-powder chamber or open end of the shell, and it is firmly held in place by a crimp in the circumference of the shell just above its upper edge. The bottom of this cup projects upwards from the circumference towards the center, and in the chamber thus formed between the bottom of the cup and the closed end or base of the cartridge, is placed the fulminate. At either end of a diameter of the cup is drilled a hole, whose entire area opens in upon the priming and is free to receive the flame; the inner edges of these vents do not, therefore, "nearly coincide" with the wall of the chamber; on the contrary it is their outer edges which are nearest to it, and thus an important element of the claimant's combination is absent. (*Vance v. Campbell*, 1 Black, 427; *Case v. Brown*, 2 Wallace, 325 and 327; *Schumacher v. Cornell*, 96 U. S., 554.)

Prior to 1864 the "rim-fire" metallic cartridge was used in the army, but in that year experiments were begun for the perfection of the center-fire cartridge, and among other models the Government offices manufactured and fired a cartridge of which the following were the distinctive features: The fulminate was inclosed in a central chamber protruding outward from the base of the shell; over this was a metal disk held in place by the walls of the shell; at either extremity of a diameter of this disk was a hole exposing its entire area for the free passage to the black powder of the flame from the fulminate. The exterior bulb or chamber was abandoned; but the other distinguishing features were in effect retained and improved until they developed, in 1868, the cup-anvil service cartridge.

This cartridge of 1864 shows a central fulminate chamber with a disk above it, of which the center is the anvil, and through this disk are drilled two vents. Another cartridge made by the Government about the spring of 1865 shows the same combination except that the priming chamber is formed by a circular depression in the base of the cartridge instead of an exterior protrusion or bulb. If then the use of two disks is not material to the claimant's combination, and if the position of the vents is likewise not material, there remains of his patent of 1879 only a chamber of fulminate in the center of the base of the cartridge, with an anvil over it, having two or more openings. Cartridges covered by this description were manufactured by the Government in 1864, and have been ever since. But there is another and material distinction between claimant's cartridge, the Government cartridges of 1864 and 1865, and the

service "cup-anvil" cartridge found in the substitution of a cup for a disk or for two disks.

Theoretically a disk has area without thickness; practically it has very little thickness and is apt to be misplaced or turned in the shell or to be loosened by the blow from the striker; on the other hand a cup from its form has greater rigidity, its wall prevents it from turning when inserted, and it can be better held, because the crimp is made at a thinner part of the walls of the shell, while the disk must be secured by a crimp close to the base where the walls are thickest. The cup also being practically the equivalent of a hollow cylinder, occupies less powder space for equal depths of cup and thickness of disk.

Upon our construction of the patent in issue the Government cartridges do not infringe the claimant's, but if we are in error as to this, still the claimant cannot recover, as the essential characteristics of his invention now found in the Government cartridge were developed by officers of the army in 1864. That is if the relative
26 position of the vents and the wall of the fulminate chamber is a material part of the claimant's patent, the Government has not infringed, this feature not appearing in its cartridges; but if this position is not material still the claimant cannot recover, as the other characteristics of his invention found in the cartridge now used by the defendants were introduced by them prior to the issue of the patent, or the filing of the application for it, and even prior to the application of 1865.

In this view of the case it is unnecessary to consider other points urged by the defense.

It is the judgment of the court that the petition be dismissed.

27 *Additional Finding of Fact.*

Filed June 7, 1898.

IX.

Counsel for the defendants also requested the court to find the following facts, which are shown by the file-wrapper and contents in the United States Patent Office in the matter of letters patent No. 212,313, issued to the claimant, but the court has refused to find them:

On December 28, 1878, the claimant filed in the United States Patent Office an application for a patent for an improvement in metallic cartridges, the specification and claims in which were as follows:

My invention relates to the peculiar construction, and combination of a circular metallic perforated plate with the circular fulminate carrier, and solid fire-tight metallic case and head in one piece, as will be hereinafter more fully set forth, and described.

In the accompanying drawing—

Fig. 1 is a longitudinal section of my improved metallic cartridge.

Fig. 2 is a plan view of the retaining disc or anvil.

Fig. 3 is a diametric section of the fulminate-carrier plate and anvil, and

Fig. 4 is a plan view of the fulminate carrier.

A, is a cylindrical metallic cartridge case or shell with solid rear end L, in one piece therewith, and both fire-tight, open only at the front end B, to be primed and loaded at this front opening.

D, is a circular disc of paper or any suitable substance, perforated through the center, for the reception of the fulminate in this perforation or chamber C.

This paper disc when charged with fulminate is placed against the bottom L, of the metallic case A; E is a circular metallic plate closely fitting inside of the case A, down upon the paper disc D, where it is held in place by contracting or pinching in the case A, which forces the plate E, down upon the disc or base of the case and makes a tight joint around the edge of the plate.

The plate E, is provided with perforations *k*, *k*, upon either side of a central line drawn through its axis as shown at *h*, *h*, figures 2 and 3, sufficient space being left between these perforations to form the bar *i*, of a breadth nearly equal to the diameter of the perforation C, immediately over which it rests; F, is the space in the cartridge which is loaded as usual with a charge of powder, and bullet of any desired weight and shape. The fulminate chamber C, may be recessed or formed in the metal of the circular plate E, with the central bar *i*, and two side perforations *k*, *k*, over it, dispensing with the paper. The central anvil affords a firm resistance to a central striker acting on the centre of the base L, and compressing the fulminate to ignite it with certainty. The two side vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder.

28 Having described my invention, what I claim is,

1st. The circular plate E, constructed with central solid resisting piece *i*, and two or more side perforations *k*, *k*, substantially as described, applied within a metal case, with cylinder and rear end solid and tight, thereby requiring the insertion of the plate and charge and priming from the front, igniting the charge and remaining fire-tight in firing as described.

2nd. The circular plate E, constructed as described in combination with the circular disc D, and metal solid tight case A, substantially as shown and described.

3rd. A circular metallic tight-fitting plate perforated into a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid fire-tight metal case, substantially as set forth.

The examiners rejected the first and third claims on reference to patents of A. Moffatt, 53168, Mar. 13, 1866, and W. Tibbals, 90607, May 25, 1869 (cartridges), and English patent 2906 of 1865, and the second claim upon the English patent alone.

Thereupon the claimant amended his specification by adding the following:

The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder charge. In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber and fills it. (Before the application was finally allowed the words "the flange and head of the metallic case are solid, all in one piece," were added here.) This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out; but is compelled to diffuse its explosive force not in a central stream, but in a diffused body into the base of the powder charge. To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes, one is to diffuse the fire from this center most thoroughly, the other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker, and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force, at once from beneath the anvil plate, without any chamber or space for it to expand into under the plate. This assures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge, from the base forward, as it impels the bullet out of the gun.

He also submitted in place of the three original claims the following:

Having thus described my invention what I claim as new and desire to secure by letters patent is—

The construction and arrangement of the chamber of fulminate, anvil, plate, perforations and case, with the central constructed, filled chamber of fulminate powder in contact and between the base of the case and the circular anvil plate, with central anvil bar and two or more side perforations extending from the extreme sides of the chamber of fulminate into the base of the powder charge whereby the smallest area of resistance is presented to the fulminate explosion and the fire is diffused in the base of the charge of powder and the greatest resistance is presented by the front face of the plate to the powder charge consuming the powder and securing the plate as and by the means described.

29 The examiners held that the construction described in the specification as amended involved patentable novelty, and that a specific and well-defined claim might be allowed, but not the amended claim, it being "vague, indefinite, and ambiguous." Therefore the claimant withdrew the amended claim, substituting the following, which was allowed:

In the bottom of a solid metallic-flange cartridge case or shell the combination of a circular base enclosing a central chamber of

fulminate and an anvil over the fulminate provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge substantially as described.

Counsel for the claimant objected to the above statement from the file-wrapper and contents on the ground of irrelevancy.

The court refused to find the facts contained in the above statement on the ground that "the file-wrapper and contents on an application for a patent do not constitute such facts as the court is required to find under rule 1 of the Supreme Court relating to appeals from the Court of Claims."

The court ordered the above statement, with the court's refusal to find the facts as requested, to be made a part of the record.

30 (No. 212,313.)

The United States of America to all to whom these presents shall come:

Whereas William W. Hubbell, of Washington, District of Columbia, has presented to the Commissioner of Patents a petition praying for the grant of letters patent for an alleged new and useful improvement in cartridges, a description of which invention is contained in the specification, of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided; and whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law:

Now, therefore, these letters patent are to grant unto the said William W. Hubbell, his heirs or assigns, for the term of seventeen years from the eighteenth day of February, one thousand eight hundred and seventy-nine, the exclusive right to make, use, and vend the said invention throughout the United States and

31 the territories thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the city of Washington, this eighteenth day of February, in the year of our Lord one thousand eight hundred and seventy-nine, and of the Independence of the United States of America the one hundred and third.

A. BELL,
Acting Secretary of the Interior.

[SEAL.]

Countersigned:
H. E. PAINE,
Commissioner of Patents.

33 UNITED STATES PATENT OFFICE.

WILLIAM W. HUBBELL, of Washington, District of Columbia.

Improvement in Cartridges.

Specification forming part of Letters Patent No. 212,313, dated February 18, 1879; application filed December 28, 1878.

To all whom it may concern:

Be it known that I, William Wheeler Hubbell, of Washington, in the county of Washington and District of Columbia, have invented an improved metallic cartridge; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to the peculiar construction and combination of a circular metallic perforated plate with the circular fulminate-carrier and solid fire-tight metallic case and head in one piece, as will be hereinafter more fully set forth and described.

(Here follows diagram marked p. 32.)

In the accompanying drawings, figure 1 is a longitudinal section of my improved metallic cartridge. Fig. 2 is a plan view of the retaining disk or anvil. Fig. 3 is a diametric section of the fulminate-carrier, plate, and anvil; and Fig. 4 is a plan view of the fulminate-carrier.

A is a cylindrical metallic cartridge case or shell, with solid rear end, L, in one piece therewith, and both fire-tight, open only at the front end, B, to be primed and loaded at this front opening.

D is a circular disk of paper or any suitable substance, perforated through the center for the reception of the fulminate in this perforation or chamber C.

This paper disk when charged with fulminate is placed against the bottom L of the metallic case A. E is a circular metallic plate closely fitting inside of the case A, down upon the paper disk D, where it is held in place by contracting or pinching in the case A, which forces the plate E down upon the disk or base of the case and makes a tight joint around the edge of the plate.

The plate E is provided with perforations *k k* upon either side of a central line drawn through its axis, as shown at *h h*, Figs. 2 and 3, sufficient space being left between these perforations to form the bar *i*, of a breadth nearly equal to the diameter of the perforation C, immediately over which it rests.

F is the space in the cartridge, which is loaded as usual with a charge of powder and bullet of any desired weight and shape. The fulminate-chamber C may be recessed or formed in the metal of the circular plate E, with the central bar *i* and two side perforations *k k* over it, dispensing with the paper. The central anvil affords a firm resistance to a central striker acting on the center of the base L, and compressing the fulminate to ignite it with certainty. The

W. W. HUBBELL.
Cartridge.

No. 212,313. Patented Feb. 18, 1879.

Fig. 1.

Fig. 2.

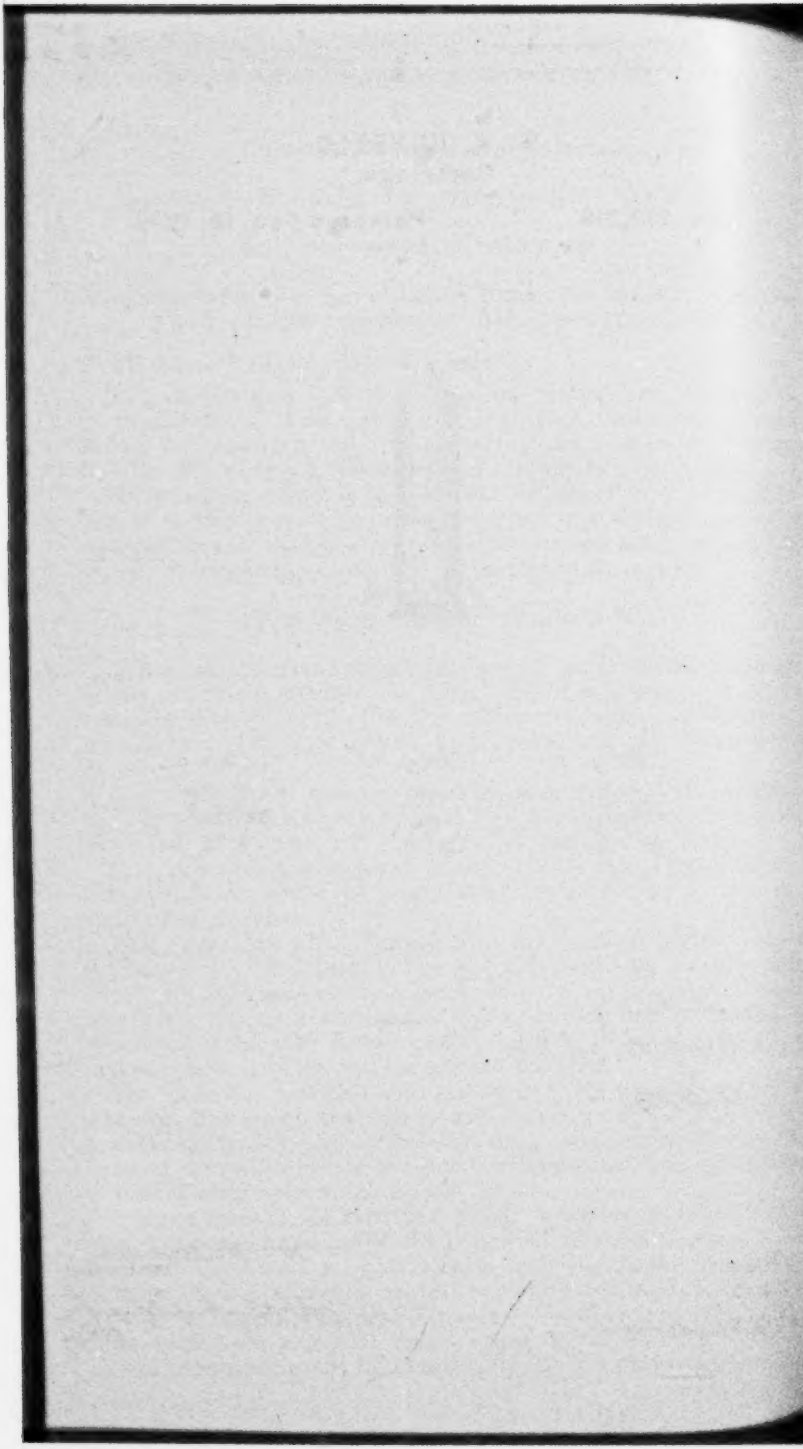
Fig. 4.

Fig. 3.

No 333
Hubbell } p. 32
vs.
U States

Attest.
Ansley.
W. F. Anderson.

Wm W. Hubbell.
Inventor.
By W. C. Abbott
Atty.



two side vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil-plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder.

The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder-charge. In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber and fills it. The flange and head of the metallic case are solid, all in one piece. This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder-charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil-plate and blow it out, but is compelled to diffuse its explosive force, not in a central stream, but in a diffused body into the base of the powder-charge. To effect this the central anvil-piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes. One is to diffuse the fire from this center most thoroughly. The other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker and obtain complete resistance by the anvil-bar, and yet have free escapement for the explosive force at once from beneath the anvil-plate without any chamber or space for it to expand into under the plate. This assures a certain ignition, security of the anvil-plate to keep its position, and a complete combustion of the powder-charge, from the base forward, as it impels the bullet out of the gun.

Having thus described my invention, what I claim as new, and desire to secure by letters patent, is—

34 In the bottom of a solid metallic-flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

WM. WHEELER HUBBELL.

Witnesses:
ALBIN M. LONG.
WM. G. HENDERSON.

35 *Court of Claims Journal, Vol-. 9 & 15.*

"June 1, 1885.—The court met according to adjournment.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } 13793.

Judge Davis filed the opinion of the court, and judgment was ordered to be entered as follows:

The court, on due consideration of the premises, find for the defendants, and do order, adjudge, and decree that the claimant's petition be dismissed.

The court filed findings of fact.

June 7, 1898.—The court met according to adjournment.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } 13793.

Mr. Dewees, for the claimant, presented an application for the allowance of an appeal filed August 21, 1885, and it was ordered that the appeal be allowed as prayed for.

The defendants filed request for an additional finding of facts; which was allowed."

In the Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

And now comes the claimant, by his attorney, and moves in open court for an allowance of his application for an appeal to the Supreme Court of the United States.

F. P. DEWEES.

(Filed June 7, 1898. Court of Claims.)

36 Court of Claims.

WM. WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

Claimant moves for—

1. A new trial.
2. Amendment of the findings.
3. Reversal of judgment.

W. W. HUBBELL, *Cl't.*

Assignment of errors within.
Filed Aug. 14, 1885.

A. H.

(Endorsed:) 13793. Court of Claims. W. W. Hubbell *vs.* The U. S. Order on motion for new trial. Filed Dec. 14, 1885. A. H.

Court of Claims.

WM. WHEELER HUBBELL
vs.
THE UNITED STATES.

The claimant's motion for a new trial, made *in propria persona*, is refused, but leave is granted to submit to the court for their consideration, and such action as they may find it just to take, findings II, III, and IV, amended in the form requested by claimant in his motion, and also the drawings to accompany these and other findings claimed by him in said motion as necessary to a proper understanding of the case; notice of such amended findings and
37 drawings to be given the Attorney General and opportunity allowed him, should he so desire, to be heard in opposition to their allowance.

(Docket)—Oct. 8, 1886.—Requests for findings of fact filed by claimant under order of Dec. 14, 1885.

(Endorsed:) 13793. Court of Claims. Wm. Wheeler Hubbell *vs.* The United States. Motion of claimant to amend order of court in case 13793. Filed Nov. 12, 1891. J. R. W. W. Hubbell.

Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

The claimant moves the court to amend the order in this case substantially as follows, to wit: That on the hearing of the motions pending under the order of the court for an amendment of the findings and reversal of judgment—

The claimant may read in evidence the replies of the War Department and claimant's depositions taken in case 16261, between the same parties, in relation to the "reloading cartridge," so called, and the defendant may read any new matter taken in case 16261;

It being understood here in open court that the claimant waives all claim in suit 13793 and suit 16261 on the "cup-anvil cartridge," as not coming within the combination claim of his patent, though originally, in 1842, invented by him; but claimant retains
38 his claim in suit 13793 and suit 16261 on the "reloading cartridge" as made and adopted by the defendant since "July, 1879," as embraced by the claim of his patent No. 212,313, dated February 18, 1879.

WM. WHEELER HUBBELL, *Claimant.*

Exhibit of cl't's testimony filed herewith.

Allowed, subject to defendant's objections on the argument.

W. A. R., *Ch. J.*

(Endorsed:) No. 13793. Court of Claims. Wm. Wheeler Hubbell *vs.* The United States. Appeal of claimant, subject to motion for a new trial, &c. "Let this stand without action as to allowance at present." Filed Aug. 21, 1885. A. H. W. W. Hubbell, cl't, Concord depot, Va.

Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

Claimant, owing to the manifest errors of the Court of Claims in this case in statement and omission, both of fact and of law, and of judgment of dismissal of claimant's petition, appeals from the same to the Supreme Court of the United States—

The sum in controversy being $32,368.25 in this suit.

This appeal is entered, in pursuance of the law, within 90 days and subject to claimant's motion for a new trial. Amendment of
39 the findings and reversal of judgment also entered.

August 20th, 1885.

WM. WHEELER HUBBELL, *Claimant.*

Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793 & 16261.

Claimant moves to print the motion, filed Nov. 12th, 1891, and allowed, as to cases 13793 and 16261, as therein stated (without the printed matter annexed).

Also to print the order of court on motions for new trial, &c., &c., in 13793, referred to by defendant's brief in 16261, but not printed, filed Dec. 14, 1885.

Also to print numbers 5 and 6 as certified by the Patent Office and stipulated in schedule of June 3, 1884, allowed by Chief Justice Drake, but not printed as certified (excepting the drawings,
40 which are printed).

GEO. S. BOUTWELL, *Att'y,*
By WM. W. HUBBELL, *Cl't.*

I assent to the above, provided the text of Nos. 5 and 6 are printed in full, with proper explanatory notes or marks to indicate the various changes made in the specifications and claims while the matter was before the examiners in the Patent Office.

CHARLES C. BINNEY, *Ass't Att'y.*

(Endorsed:) 13793 & 16261. Court of Claims. Wm. Wheeler Hubbell *vs.* The United States. Motion of claimant to print Nos. 5 & 6 of the record as certified and the orders of court & motion allowed. Allowed, with Mr. Binney's addition. W. A. R., Ch. J.

In the Court of Claims.

WILLIAM W. HUBBELL
vs.
THE UNITED STATES. } No. 13793, No. 16261.

Motion to Hear Argument of Motions for New Trial and Amendment of Findings of Fact in the Above-stated Cases at the Same Time.

And now comes the claimant, by his attorney, and moves the court that the motions for new trial in 16261 and amendment of findings of fact in 13793 and 16261 be heard at the same time.

GEO. S. BOUTWELL,
Attorney for Claimant.

F. P. DEWEES, *Of Counsel.*

41 Endorsed: 13793 & 16261. W. W. Hubbell *vs.* The United States. Motion that the motion for new trial in 16261 and for amended findings of fact in both cases be argued at the same time. Allowed. W. A. R., Ch. J. Filed Feb. 3, 1896. Court of Claims. F. P. Dewees, of counsel. Geo. S. Boutwell, att'y of claimant.

In the Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

Motion to Amend Findings of Fact.

And now comes the claimant, by his attorney, and moves the court to amend the findings of fact so that the same shall be in conformity with 16261.

F. P. DEWEES,
Attorney for Claimant.

(Endorsed:) 13793. William Wheeler Hubbell *vs.* The United States. Motion to amend findings of fact. Overruled. Requested findings do not conform to the rules of the Supreme Court. Filed Apr. 28, 1896. Court of Claims. F. P. Dewees, for claimant.

In the Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

Motion for Additional Findings of Fact.

42 And now comes the claimant, by his attorney, and moves the court that the additional findings of fact allowed in the

case of same claimant in 16261 and specifically set forth in claimant's motions of May 9th & 11th, 1896, be allowed in the above-stated case.

F. P. DEWEES,
Attorney for Claimant.

Argument on Motion.

There is in this case a motion not disposed of. By reference to Record, page 337, it will be seen that a motion was made by claimant and allowed by the court to submit for the consideration of the court certain amendments to the findings of fact. The following order was also made:

"That on the hearing of the motions pending under the order of the court for an amendment of the findings and reversal of judgment the claimant may read in evidence the replies of the War Department and claimant's depositions taken in case 16261, between the same parties, in relation to the 'reloading cartridge,' so called, and the defendant may read any new matter taken in case 16261."

On the 3rd day of February, 1896, a motion to argue the amendments to 13793 with 16261 was allowed and they were so argued.

The cases were argued on exactly the same facts. Additional facts were found in 16261.

If the facts as found apply to 16261, they also apply to 13793.

The claimant is not aware of any reason why the facts ap-
43 plicable to 16261 are not also applicable to 13793.

The court is therefore earnestly and respectfully requested to allow the present motion.

F. P. DEWEES,
Attorney for Claimant.

(Endorsed:) 13793. W. W. Hubbell *vs.* The United States. Motion for additional findings of fact overruled by the court. W. A. R., Ch. J. June 15, 1896. (Filed May 29, 1896. Court of Claims.)

44 In the Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

And now comes the claimant, by his attorney, and moves that additional findings of fact be found as follows:

Additional Findings of Fact.

X.

On application filed January 23, 1872, and on a division, a patent was issued for a subcaliber bullet with bullet paper-carrier (patent No. 126,058, dated April 23, 1872; specification, claims, and drawings thereof are made part of these findings); the claimant then re-

served the right to make further application for priming invention of the cartridge.

XI.

Upon an application filed December 28, 1878, a patent was issued to claimant February 18, 1879; the specifications, claims, and drawings are made part of these findings.

Previous to the fall of 1866 experience in the manufacture of metallic cartridges at the Frankford arsenal was limited to making a few of the Morse, Burnside, Maynard, and rim-fire cartridges for experimental purposes.

No order was made for the manufacture of center-fire cartridges at the Frankford arsenal by officers of the United States Army before the fall of 1866. About fifteen experimental cartridges, which proved failures, were made in 1866. All had hollow-flange cartridge cases.

45 These experiments were dropped and no more experiments of this kind were made.

Subsequent to these experiments and prior to 1868 an experimental primed metallic cartridge was made and abandoned, as shown on plate VI, ordnance memorandum No. 14, which is made part of these findings.

Prior to 1868 some of what were known as Martin's bar anvil, as illustrated in ordnance memorandum No. 14, plate X (made part of these findings), were tried. It had a hollow-flange metallic cartridge case, and was in 1868 abandoned (ordnance memorandum, text, plate XIII), and was superseded by the cup-anvil cartridge.

After 1868 numerous experiments were made to re-enforce the hollow flange to prevent it from bursting, some with single disks and some with re-enforce cups and some with the cup anvil.

It was found "that the cup anvil, as used in the service, was only an anvil having no value as a re-enforce." (Text, ordnance memorandum, plate XXX, made part hereof.)

XII.

The cup-anvil cartridge was adopted by the Government in 1868, and has since been manufactured and used by it to July, 1879, when it was abandoned and the present reloading cartridge adopted in its stead.

Owing to the juxtaposition, construction, arrangement, and combination of its parts, this cartridge was best adapted to receive with certainty of fire the blows of the striker in the Springfield gun.

The manufacture of the reloading cartridge commenced at the Frankford arsenal "in the month of July, 1879."

The solid-flange case, with a pocket or recess to reload, was known at the date of plaintiff's patent 212,313.

46 XIII.

The following exhibits and models are found as facts in the case:

Letters patent, with drawings, specifications, and claim, issued to Jabez H. Gill, numbered 220,472, on October 14, 1879.

Tracing drawing (filed April 13, 1865) to caveat of claimant.
Tracing drawing (filed April 13, 1865) with application of claimant.
Tracing drawing (filed January 17, 1872, No. 126,058) to application of claimant.
Tracing drawing (filed April 25, 1872) to application of claimant.
Tracing drawing (filed December 26, 1878) to patent No. 212,313 (Exhibit No. 1).
Official drawings, United States Army service cartridge, cup-anvil cartridge, and reloading cartridge.
Ordnance office official orders to load the reloading cartridge.
Ordnance memorandum No. 14; printed date, April 22, 1873.
Printed digest of cartridges for small arms, to Bartlett and Gallatin; date, 1878.

Models.

Cartridge in box, ordnance office, No. 2598, filed May 31, 1872, by claimant.
Exhibit A. R. L. M. Commander, No. 13793 (Q. 3, Rec., 105).
Exhibit of Government reloading cartridges.
Exhibit of Springfield rifle and army pistol.
Exhibit, Claimant's Exhibit 1858, to application of April 13, 1865.

F. P. DEWEES,
For Claimant.

47 (Endorsed:) 13793. William W. Hubbell *vs.* The United States. Motion to add additional findings of fact with brief. Overruled by the court. W. A. R., Ch. J. May 11, 1896. F. P. Dewees, for claimant.

Brief.

There is still pending in this court, undisposed of in the above case, a motion to amend findings of fact. The order made by the court on that motion may be found on pages 337, 338 of the record.
The same evidence is before the court in cases 13793 and 16261. The court has made additional findings in 16261. These addtional findings have the same application in each case. If proper to add findings in one case, it is equally so proper to do so in the other.

Respectfully,
F. P. DEWEES,
For Claimant.

(Filed May 9, 1896. Court of Claims.)

48 Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.
} No. 13793.

Docket Extracts.

"Aug. 14, '85.—Motions for new trial, amendment of finding, reversal of judgment filed by claimant; def'ts notified.

Aug. 21, 1885.—Cl't's application for appeal filed.

Dec. 14, 1885.—See Journal 7, page 129, for order of court in this case on the motions of Aug. 14, 1885.

* * * * * * *

Oct. 8, 1886.—Requests for findings of fact filed by claimant under order of Dec. 14, 1885; def'ts notified.

* * * * * * *

Nov. 12, 1891.—Motion of claimant to amend order of court filed; def'ts notified; handed judges.

Nov. 16 (").—Motion of cl'm't to amend order of court heretofore entered as to the evidence to be used on the trial allowed, subject to objections of def'ts on the argument."

"Feb. 3, 1896.—See case 16261 for motion; that the motion for new trial in 16261 & for amended findings of facts in 16261 & 13793 be heard at the same time filed; allowed.

June 7, 1898.—Application of cl'm't for an appeal, filed August 21, 1885, allowed as prayed for.

June 7, 1898.—Request of def'ts for an additional finding of fact filed and allowed."

49 In the Court of Claims.

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793.

I, Archibald Hopkins, chief clerk of the Court of Claims, do hereby certify that the foregoing are true transcripts of the pleadings in the above-entitled cause; of the findings of fact by the court and the conclusion of law thereon; of the judgment of June 1, 1885; motions August 14, 1885, and denial of new trial December 14, 1885; application for appeal, filed August 21, 1885; order of court, filed December 14, 1885; amended order of court on motion; motion to print in 13793 and 16261 allowed; motion to hear 13793 and 16261 together allowed; motion to amend findings in 13793 overruled; motion for additional findings specified overruled; extracts from docket 13793; motion and allowance of appeal June 7, 1898.

Seal Court of Claims. In testimony whereof I have hereunto set my hand and affixed the seal of said court, at Washington, this 21st day of June, 1898.

ARCHIBALD HOPKINS,
Chief Clerk Court of Claims.

Endorsed on cover: Case No. 16,918. Court of Claims. Term No., 333. William Wheeler Hubbell, appellant, *vs.* The United States. Filed June 21st, 1898.

No. 96. (and 198 of 1897.) 247

Motion to restore &c.

IN THE

Supreme Court of the United States.

OCTOBER TERM, 1899.

No. 96.

WILLIAM WHEELER HUBBELL, APPELLANT,

vs.

THE UNITED STATES.

AND

OCTOBER TERM, 1897.

No. 198.

WILLIAM WHEELER HUBBELL *vs.* SAME.

Motion to Restore Case No. 198 of October Term, 1897, to the Docket, and for Leave to Argue Same in Connection with No. 96 of the Present Term.

Now comes Frederic D. McKenney, of counsel for appellant in the above-entitled causes, and moves the court to restore case No. 198 of October term, 1897, now pending

before it on motion for a rehearing, to the docket, to be heard with case No. 96 of the present term as one case.

As ground for such motion, it is respectfully shown that on or about the 19th day of April, A. D. 1883, the appellant, Hubbell, filed his petition in the Court of Claims of the United States against the appellee to recover on an implied contract for the manufacture and use of certain cartridges, the specific form of which was claimed and alleged to be covered by letters patent of the United States theretofore issued to him. The case was numbered 13793 on the docket of that court, and is No. 96 of the present term on the docket of this court. It was dismissed by the Court of Claims June 1, 1885.

August 14, 1885, claimant filed a motion for a new trial and an amendment of the Findings of Fact entered therein, which, on December 14, 1885, was overruled as to the first branch and granted in a modified form as to the second (Rec. No. 96, p. 31). Pending action on such motion, on August 21, 1885, claimant filed an appeal to this court, subject to the then pending motion, and the same stood without action of allowance (p. 32) until June 7, 1898, when it was allowed in open court (p. 30).

Pursuant to the order of December 14, 1885 (*supra*), claimant, on October 8, 1886, filed a request for further findings of fact in said case, and while this request was pending before the court undisposed of he, on the 11th day of June, 1888, filed a further petition in the Court of Claims upon one branch of the same subject-matter contained in the former suit, but covering a subsequent period of time, which petition was docketed as No. 16261 on the docket of that court, and subsequently became No. 198 of October term, 1897, in this court.

Thereafter, on November 12, 1891, the claimant filed in case No. 13793 the following motion, which was allowed by the court:

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.
No. 13793.

The claimant moves the court to amend the order in this case substantially as follows, to wit: That on the hearing of the motions pending under the order of the court for an amendment of the findings and reversal of judgment—

The claimant may read in evidence the replies of the War Department and claimant's depositions taken in case 16261, between the same parties, in relation to the "reloading cartridge," so called, and the defendant may read any new matter taken in case 16261.

It being understood here in open court that the claimant waives all claim in suit 13793 and suit 16261 on the "cup-anvil cartridge," as not coming within the combination claim of his patent, though originally, in 1842, invented by him; but claimant retains his claim in suit 13793 and suit 16261 on the "reloading cartridge" as made and adopted by the defendant since "July, 1879," as embraced by the claim of his patent No. 212,313, dated February 18, 1879.

Subsequently the claimant, the Assistant Attorney of the Department of Justice in charge of the defense in both cases assenting thereto, filed the following motion, WHICH WAS ENTITLED IN BOTH CASES, and was "allowed" by the court:

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.
No. 13793 and 16261.

Claimant moves to print the motion filed Nov. 12th, 1891, and allowed, as to cases 13793 and 16261, as therein stated (without the printed matter annexed).

Also to print the order of court on motions for new trial, &c., &c., in 13793, referred to by defendant's brief in 16261, but not printed, filed Dec. 14, 1885.

Also to print numbers 5 and 6 as certified by the Patent Office and stipulated in schedule of June 3, 1884, allowed by Chief Justice Drake, but not printed as certified (excepting the drawings, which are printed).

GEO. S. BOUTWELL, *Att'y*,
By WM. W. HUBBELL, *Cl't.*

I assent to the above, provided the text of Nos. 5 and 6 are printed in full, with proper explanatory notes or marks to indicate the various changes made in the specifications and claims while the matter was before the examiners in the Patent Office.

CHARLES C. BINNEY,
Ass't Att'y.

(Endorsed:) 13793 & 16261. Court of Claims. Wm. Wheeler Hubbell *vs.* The United States. Motion of claimant to print Nos. 5 & 6 of the record as certified and the orders of court & motion allowed. Allowed, with Mr. Binney's addition. W. A. R., Ch. J.

December 23, 1895, it was ordered by the Court of Claims, upon the facts then found, that the petition in No. 16261 be dismissed, and thereafter, on February 3, 1896, the claimant, by his attorney of record, Mr. Boutwell, filed the following motion, which was entitled in both cases and allowed by the court:

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES. } No. 13793, No. 16261.

Motion to hear argument of motions for new trial and amendment of findings of fact in the above-stated cases at the same time.

And now comes the claimant, by his attorney, and moves the court that the motions for new trial in 16261 and amendment of findings of fact in 13793 and 16261 be heard at the same time.

GEO. S. BOUTWELL,
Attorney for Claimant.

F. P. DEWEES,
Of Counsel.

Endorsed: 13793 & 16261. W. W. Hubbell *vs.* The United States. Motion that the motion for new trial in 16261 and for amended findings of fact in both cases be ar-

gued at the same time. Allowed. W. A. R., Ch. J. Filed Feb. 3, 1896. Court of Claims. F. P. Dewees, of counsel. Geo. S. Boutwell, att'y for claimant.

Pursuant to this last motion, the Court of Claims made additional findings of fact, both on behalf of the plaintiff and on behalf of the defendant, and directed the same to be filed in case No. 16261, the result of such action being to include within the record in that case all findings of fact which were applicable to both cases, thus in effect combining the two cases for the purposes of an appeal and presenting in a single record each and every question which could have been raised in this court upon appeal in either case.

The practical effect of the court's action in this regard was to treat case No. 16261 as an amendment of or addition to case No. 13793, and it is apparent from the action of the court taken on the motion last above set forth that the court did not consider its judgment in case No. 13793, which must have been specifically brought to its attention in course of considering the matters growing out of that motion, as operating to render the controversy in case No. 16261 *res judicata*.

It appears that this court when considering case No. 198 of October term, 1897 (No. 16261), may have been misled, perhaps by the form in which the transcript of the record on appeal was prepared, and concluded therefrom that the prior judgment in case No. 13793, which was being held in abeyance by the Court of Claims pending the disposition of the appeal in the former case, did operate to bar a recovery in the latter suit. Such conclusion, however, has not passed into a final judgment, as a motion for a rehearing, filed May 31, 1898, is still pending before the court undisposed of.

Whatever may have been conceived to be the effect of the judgment of the Court of Claims in case No. 13793, so

long as no appeal therefrom had been perfected, it is of less moment now, since on the 7th day of June, 1898, upon motion for the claimant, the Court of Claims, in open court, entered therein the following order:

WILLIAM WHEELER HUBBELL
vs.
THE UNITED STATES.
No. 13793.

Mr. Dewees, for the claimant, presented an application for the allowance of an appeal filed August 21, 1885, and it was ordered that the appeal be allowed as prayed for.

The defendants filed request for an additional finding of facts, which was allowed.

It seems well settled that an appeal to a superior court, when perfected, vacates the judgment of the court below, and it is unnecessary to suggest that a vacated judgment cannot avail to make good a plea or argument of *res judicata*.

FREDERIC D. MCKENNEY,
Attorney for Appellant.

IN THE

Supreme Court of the United States.

OCTOBER TERM, 1898.

No. 333.

WILLIAM WHEELER HUBBELL, APPELLANT,

v.

THE UNITED STATES.

AND OCTOBER TERM, 1897.

No. 198.

THE SAME PARTIES.

Case Pending on Petition of Appellant for Re-Hearing and to be Heard Together.

Appeals from the Court of Claims.

BRIEF OF APPELLANT.

The briefs of appellant filed in case 198 are applicable, and refiled in case 333; not superseded in any way as presumed by appellee; and the court's attention is in-

vited to them also with their assignments of error as specified and numbered to XXV.

These cases alike relate to the making and use on an implied contract by the United States of the same kind of cartridge, called "Reloading Cartridge" (p. 35, Trans. 198), "United States Army Service Cartridge," continuously from "in the month of July, 1879, when it commenced, to March 31, 1883, in case 333, and from March 31, 1883, to May 31, 1888, in case 198, in order to be within the jurisdictional limit of the Court of Claims, and 17-year term of the appellant's patent No. 212,313, issued February 18, 1879. And under the orders and allowances of the Court of Claims made, the testimony and War Department replies in either case to be used in both, and the two cases finally heard together as stated therein, for amendment of and additional findings "to submit to the court for their consideration, and such action as they may find it just to take," "and other findings claimed by him (appellant) in said motion" "as necessary to a proper understanding of the case" (pp. 30, 31, 32, 33, Trans. 333).

The motions were in three parts: 1. For new trial. 2. Amendment of findings. 3. Reversal of judgment. Not only one motion, as stated by defendant (p. 9 brief). That No. 1, for new trial only, was refused (pp. 30, 31).

XXVI. Error of Court of Claims.

The court, after hearing, found "Additional findings of fact, Nos. X, XI, XII, XIII (pp. 21, 22 of case 198), and further findings (pp. 23, 24, case 198), material alike in both cases, and filed them only in case 198; and omitted to file duplicates in case 333. And several specific motions were made by appellant to file the same findings in case 333; that on May 9, 1896, reciting the additional findings, found in case 198, verbatim, which were over-

ruled by the court. (See order of Dec. 14, 1885, amended Nov. 12, 1891, and motions and a stipulation, with action of court, pp. 30, 31, 32, 33, 34, 35, 36, case 333.)

Which overruling was error in the Court of Claims, for the reasons then stated in the record, May 11, 1896.

The case 198 (16,261) being first completed and with the additional findings, on motions of both parties, was first appealed to the Supreme Court, by allowance of the appeal in vacation July 6, 1896 (pp. 37, case 198).

In case 333 the appellant had filed an application for an appeal August 21, 1885, and the court had made an order thereon, "Let this stand without action as to allowance at present."

And the defendant, without filing any plea of *res adjudicata*, had proceeded to take testimony, and in all respects prepare and try the case 16,261 (No. 198) in the Court of Claims, stipulating in both 13,793 and 16,261 with allowance of court (p. 32, case 333).

And on June 7, 1898, the defendant, United States, in case 13,793 (333) moved in the Court of Claims for an additional finding of fact as filed and allowed (pp. 24-5-6-7). And also June 7, 1898, on motion, claimant's application for an appeal, filed August 21, 1885, was allowed as prayed for (p. 37, docket case 333), and vacated the judgment.

There was not previously under the orders of the court, and proceedings, any final determination "or *res adjudicata*" of case 13,793 (333) before June 7, 1898. (p. 37 docket entries, case 333.)

XXVII. Error of Court of Claims in case 198 (16,261).

The court had erred in its recital of the docket, and of the order made as of "Dec. 14, 1885," p. 20. No such entry, nor limited order as stated, was made.

The original docket entry is copied on page 37 of case 333, "Dec. 14, 1885, see journal, page 129, for order of court in this case on the motions of Aug. 14, 1885." And the whole of the order as made is on page 31, case 333, with the amendment filed Nov. 12, 1891, as allowed by the Chief Justice W. A. R."

All the important parts of the order of court, relating to the motions "2. Amendment of findings; 3. Reversal of judgment," are omitted, and misled the Supreme Court of the United States. The case 13,793 was held open by the orders and action of the Court of Claims "for their consideration, and such action as they may find it just to take," on the proposed findings, and other findings claimed by claimant "as necessary to a proper understanding of the case," which were filed Oct. 8, 1886 (p. 31, case 333), and agree in substance with those filed in case 198, on appeal to the Supreme Court, and omitted from case 333, erroneously by the court as "overruled."

XXVIII. The court errs in its opinion in calling the "fulminate (*priming*)"; in the patent it is called "fulminate" throughout, and "fulminate of mercury or detonating powder." It is to sustain a misconception of the patent which uses only old and well-known names. "Priming" descends from the "powder" charge into the vents in loading downward; and is important for safe and quick certainty of fire of the charge. The fulminate with its devices originates the fire. The priming cumulatively first conducts it "*into*" the seat or base of the powder charge in the case of the cartridge.

XXIX. The tight-jointure *combination* and *principle* excludes the humidity of the air between the grains of powder, and in the powder, from the composition of the

fulminate, aided by the usual tinfoil, or shellac or paper keeper; and excludes all outside moisture; preventing the chemical destruction of the cartridge. Hence its great success at Santiago and Manila, under the most adverse conditions, of exposure to heat, rains, and moisture. The tight-jointure combination *function* and *principle* being set out *specifically* in par. 6 of the patent; and involved in the 2, 3, 6, 8, 9, and claim 10; and which the court in its opinion appears to have entirely overlooked; *omitted erroneously.*

XXX. Paragraph 6th of the patent says, "E is a *circular metallic plate closely fitting inside of the case A*, down upon the *paper disk* D, where it is held in place by *contracting* or pinching in *the case* A, which forces *the plate* E down upon the disk or base of the case and makes a *tight joint around the edge of the plate.*" Paragraph 8. "The *fulminate chamber* C may be *recessed or formed in the metal* of the circular plate E, with the central bar *i* and two side perforations KK over it, (the 'fulminate chamber,') dispensing with the paper."

This diameter of plate, .40 of an inch, *recessed*, makes a metal thin cup with base, suited to fit tight into the bottom of a recess case, as well known in gas-check devices as found by the court; but not having the patent combination of disc or plate anvil with bar *i* and two side vents over the fulminate, not tight-jointed (English Boxer Pl., Ord. Mem. 14); and failed, because not constructed and combined with the functions specified in Hubbell's patent; which patent is "*res adjudicata*" as it declares in the letters, "and whereas upon due examination made the said claimant is adjudged to be justly entitled to a patent under the law."

And the Court of Claims greatly erred in the law; in

overlooking; and in *misreciting* and in perverting the sense of this part, par. 6, and its *metallic* modification of this vital functional principle of this part of the patent specification.

The *three elements* or *parts* of the combination are first clearly set out in paragraph 2d:

"My invention relates to the peculiar *construction and combination* of (1) a *circular metallic perforated plate* ('retaining disc or anvil'). (2) With the circular fulminate carrier of compressible substance, paper or thin metal made as specified. (3) And a solid fire-*tight* metallic case and head in one piece (of the combination) as will be hereinafter *more fully* set forth and described. Par. 9, p. 29, 'The *flange and head of the metallic case* are solid, all in one piece (of the combination')."

The case itself therefore is solid at the flange, and tight when organized, at its jointures, and makes one piece of the combination.

The fulminate carrier in either of its modifications and its fulminate, makes another piece of the combination; and the retaining disc or anvil with its central bar *i* and two side openings or vents over the fulminate, makes another piece of the combination.

They are all organized and co-operate together, making, when primed and loaded with powder charge and bullet, a mechanically self preserving, tight-jointed, solid flange, metallic military cartridge, of superior power, with "certainty of fire," accuracy, and positive fitness for war usage; and fully demonstrated by successful use by the defendant's army, called the "Reloading Cartridge."

The court errs entirely on p. 21, in its statement of both the claim, and the substance of the patent. It is not for two elements only, nor as stated, nor recited.

XXXI. The court errs in saying, "As it is *admitted* that the Government cartridges were manufactured and used prior to the claimant's application for the patent," &c. (p. 20, opinion).

The amended petition allowed May 18, 1883, p. 6, sets out "3d. That the United States *since the date of the patent* has also further made and used up to the time of filing the petition, certain cartridges termed 'reloading cartridges,' containing your petitioner's patent, invention, &c."

And the court in its additional findings, afterwards found in case 198: "XII. The manufacture of the reloading cartridge commenced at the Frankford arsenal in the month of July, 1879." So finally reported by the War Department, which was after claimant's patent 212,313, of February 18, 1879, had been granted; and after an official copy of the patent with written notification, and license for $2.50 per thousand from claimant "May 20, 1879," had been presented to the Secretary of War, and had been referred to the commanding officer, Major James M. Whittemore, at the Frankford arsenal, by whom in July, 1879, it was introduced into the United States service. (The mechanic Mr. Gill being only a workman there at $4 a day. See S. C. Rep., vol. 160, Gill *v.* U. S.)

See "additional findings of fact" (pp. 21, 22, 23, Trans. 198) X, XI, XII, XIII, and further "additional findings" filed April 27, 1896, as there set out, which show failures and abandoned experiments of the Government, to reenforce the hollow flange to prevent it from bursting (p. 22), including the cup anvil, as used in the service "until the adoption of the present reloading cartridge in its stead."

And the finding of exhibit, "Claimant's Exhibit, 1858,

to Application of April 13, 1865," with bar and two vents, and his then efforts to mechanically have a tight jointure and hollow flange made solid; afterwards improved by claimant as patented; and immediately afterwards commenced, in July, 1879, to be manufactured, and adopted by the defendant in the army service. F. XII.

XXXII. The court further erred in law in its opinion filed in No. 333 (p. 21), when it says, as to claimant's patent:

"Claimed as new is 'the combination of a *circular base* inclosing a *central chamber* of fulminate, and *an anvil* over the fulminate, provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate,' and

"The patent of 1879 is, therefore, for a combination made up of the *circular base* containing the fulminate, the *anvil* over it, with the apertures or vents placed as shown, and the position of these vents is material to the combination as described and claimed."

These errors *omit* the solid flange case with a bottom, and *omit* the tight-jointure principle of the circular fulminate carrier mechanically established with the case, and braced by the anvil disc, and necessary to constitute the organized cartridge as patented.

The patent is not specified nor claimed as of two parts only, as stated by the court. The court's version seems to fit the dangerous and worthless abandoned experiments, erroneously set up by Gill alone; and in the additional findings by the court—XI, p. 21, case 198: "About fifteen experimental cartridges, which proved failures, were made in 1866. All had hollow flange cartridge cases."

"These experiments were dropped and no more experiments of this kind were made."

The Court of Claims therefore erred as to the legal nature of the patent invention, and erred in its conclusion of law.

XXXIII.—*The Plain Import of the Patent.*

The claim in a patent is a concrete form of expression of the invention specified; and "inner edges" in the claim mean the metal curved edges next to the centre or anvil bar *i;* these edges form the inner line of the openings of the anvil piece or body over the fulminate; "nearly coincide" mean "nearly" agree in location, with the sides of the fulminate chamber, which form the outer limit of the actual openings "over" the fulminate, as "shown" in the tracing of original drawing (transcript), and specified and claimed. This arrangement gives a tight-jointed chamber, secured in the centre of the bottom of a solid flange case, with an indentable metal base; containing a minimum amount of fulminate, with a plate anvil face firmly holding, and resisting the fulminate when compressed by the force of a striker to ignite it; and yet practically allow a free escape of its fire from the centre of ignition each way, through the two vent openings into the powder priming from, or base of, the powder charge, causing with certainty of fire its instant explosion in a forward direction.

The lateral groove or cut in the anvil metal shown in the drawing, original, of the patent (p. 32, Trans. 198), is over the carrier, and of operative size; and is to admit priming powder down close to the fulminate, and invite a free or quick escapement of the fulminate's fire. The lateral grooves in the patent of claimant and in the "reloading" cartridge of defendant, perform exactly the same office to the elliptical-shaped openings through the anvil, in both over the fulminate, and of the same area of chamber

and vent openings; and are in the same combination and operation of solid flange case, retaining disc anvil and circular fulminate carrier, with centrally indentable metal base, held in mechanical tight jointure to the internal circuit of the case, in the bottom or base of the case; for which the patent of claimant, No. 212,313, was granted by defendant.

XXXIV.—*Combination.*

A combination of three parts in a patent means that they are separately made, so as to co-operate when combined together, and set out as a construction and combination of parts. Its reading throughout is to be so understood. Three parts made separate, then combined, co-operating towards the useful results attained. And the making or use of the three parts, to co-operate and develop the functional principles of the patent, is a making or use of the patent invention.

And the Court of Claims erred both in law and facts as to claimant's patent, and erred in its conclusion of law dismissing claimant's petition.

XXXV. This appellant asks that the Supreme Court will apply the additional findings of facts, filed by the Court of Claims in case No. 198, to the transcript of this case No. 333, and will adjudicate on the "law and the facts" as expressly empowered by the Constitution; a power which is intended to be superior to any and all inferior courts, and vitally important respecting war inventions, a subject arising under the Constitution alone.

2. And this appellant asks that the Court of Claims be reversed and directed to enter judgment in favor of the claimant against the United States in the sum of $19,860.07 in case 333, being at the rate of $1.50 per

thousand, for 3,866,352, reloading cartridges; and 9,373,-700 primers renewing the patent combination, which performs its function at each firing, making 13,240,052 completed cartridges (p. 20).

And the appellant asks that the Supreme Court will take such action in the premises, as the truth as to facts, and justice as to law, may render expedient. The Constitution specifies only "progress" and "just compensation" for the inventor, with full "judicial power" in the "one Supreme Court of the United States."

XXXVI.—*In Case No.* 198.

And in case No. 198, Oct. term, 1897 (No. 16,261, C. C.)

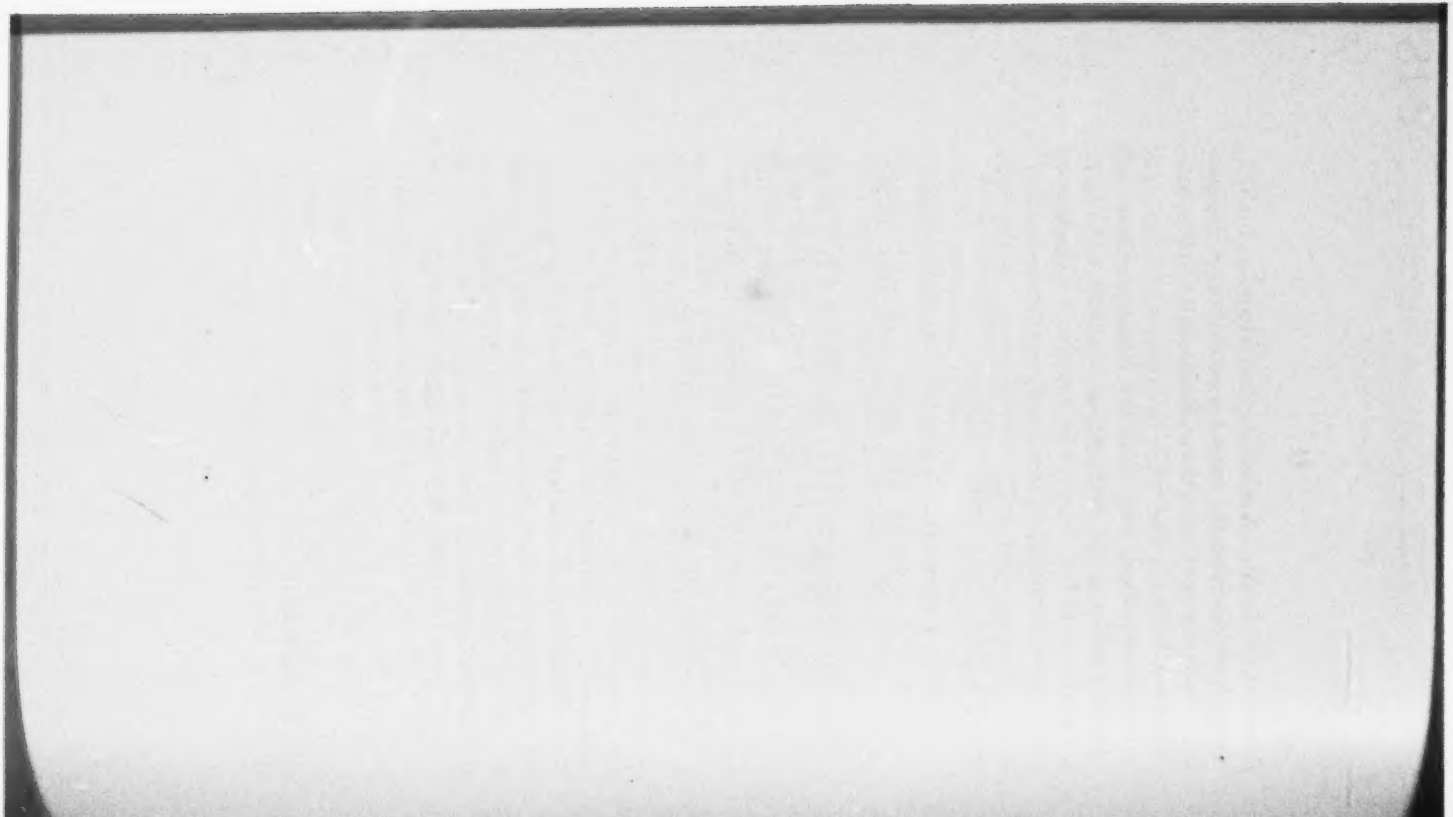
The court having found as an amendment, "To Finding VII, add this: From 31st March, 1883, to 31st May, 1888, the United States manufactured 39,224,315 reloading cartridges, and 65,841,675 primers," (p. 23 Trans.), making the sum of 105,065,990 completed cartridges as re-loaded, amounting to a royalty sum, at the rate of $1.50 per thousand (p. 19), of one hundred and fifty-seven thousand five hundred and ninety-eight dollars and ninety-eight cents ($157,598.98).

And appellant asks for an allowance of his petition, reversal of the Court of Claims, and asks that judgment in case 198 (16,261, C. C.) be directed, in this sum of $157,598.98, against the United States.

WM. WHEELER HUBBELL,
Counsellor and Appellant.

GEO. S. BOUTWELL,
Attorney of Record.

F. P. DEWEES,
Of Counsel.



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vs.

THE UNITED STATES.

AND

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WILLIAM WHEELER HUBBELL, APPELLANT,

vs.

SAME.

APPEALS FROM THE UNITED STATES COURT OF CLAIMS.

BRIEF FOR THE APPELLANT.

FREDERIC D. McKENNEY,
For Appellant.

J. NOTA McGILL,
Of Counsel.

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APPEALS FROM THE COURT OF CLAIMS.

BRIEF FOR THE APPELLANT.

Preliminary Statement.

The above actions are founded upon an implied contract between the appellant and the United States, whereby, it is asserted, the former became entitled to recover from the

latter royalties for the manufacture of certain cartridges of an improved form and design claimed to be covered by letters patent of the United States issued to the appellant.

The letters patent mainly relied upon to support the claim were issued February 18, 1879, on an application filed in the Patent Office December 28, 1878, and are numbered 212,313. The specifications declare that the "invention relates to the peculiar construction and combination of a circular metallic perforated plate, with a circular fulminate-carrier, and solid fire-tight case and head, in one piece," as thereinafter more fully set forth and described, and the claim is for the combination, in the bottom of a solid metallic flange cartridge case or shell, of a circular base, enclosing a central chamber of fulminate, and an anvil over the fulminate, provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate, substantially as described (Finding 4, page 18)

The above suits together cover a period of alleged manufacture extending from July, 1879, to June 11, 1888, during which period it is found that the United States manufactured 43,090,667 reloading cartridges and 75,215,375 primers, of the kinds alleged to be covered by the terms of appellant's letters patent.

Of these numbers 3,866,352 reloading cartridges and 9,373,700 primers were manufactured by the United States between the months of July, 1879, and March 31, 1883, and between the last date and May 31, 1888, there were manufactured 39,224,315 reloading cartridges and 65,841,675 primers. The cost of manufacturing the reloading cartridges is $30 per thousand, and a fair royalty to the patentee would be $1.50 per thousand. The total amount claimed in both above cases is $177,459.06, of which amount $19,860.07 accrued due prior to March 31, 1883.

Appellant's first suit was instituted in the Court of Claims April 19, 1883, and covered only the first of the next above-mentioned periods. That suit was numbered 13793 on the docket of that court, and the petition was dismissed June 1, 1885, upon the findings of fact and the conclusions of law made of record by the court therein.

Claimant filed a motion for a new trial and for amended findings of fact. The motion for a new trial was refused, but leave was granted to the claimant "to submit to the court for their consideration, and for such action as they may find it just to take, findings II, III, and IV amended in the form requested by claimant in his motion, and also the drawings to accompany these and other findings claimed by him in said motion, as necessary to a proper understanding of the case" (No. 96, page 31).

On October 8, 1886, appellant submitted his amended findings of fact, in accordance with the requirement of the above order, and the same were pending, undisposed of, when, on June 11, 1888, he filed his second suit in the Court of Claims, covering the second of the above-mentioned periods, which suit was numbered 16261.

From the time of filing this second suit, the cases seem to have been treated by the court and the attorneys for the respective parties as having been consolidated, for the evidence which had theretofore been introduced in case No. 13793 appears also to have been used in case No. 16261, as is evidenced by the reiteration in the latter case of the findings of fact, word for word, as made of record in the former case, and the additional evidence taken in the latter case, at claimant's request, was ordered by the court to be read upon "the hearing of the motion pending under the order of the court for an amendment of the findings and a reversal of judgment" in case No. 13793 (No. 96, page 31).

It further appears that the waiver by claimant of all claim against the United States, on account of the manu-

facture of what was called the "cup-anvil cartridge," which was the main matter in controversy in case No. 13793 and but incidentally involved in No. 16261, was filed in the former case alone (No. 96, page 31), although made a part of the court's amended findings of fact filed in case No. 16261 (No. 198, page 23).

August 21, 1885, claimant filed in case No. 13793 an application for the allowance of an appeal to this court, "subject to motion for a new trial, &c.," and such application had not been acted upon and evidently was not intended or expected, either by the trial court or counsel on either side, to be acted upon until the disposition of case No. 16261 (198 of 1897) by this court, as the decision of that case upon the merits would have effectually settled the entire matter in controversy.

This court, however, disposed of the appeal in case 16261 upon the theory that the matter in controversy was *res judicata* by reason of the judgment of the Court of Claims, theretofore entered in case No. 13793, and it consequently became necessary to press to allowance the suspended application for an appeal in the latter case. Such appeal was allowed in open court on the 7th day of June, 1898.

ARGUMENT.

The application for allowance of an appeal in case No. 13793 (No. 96 here) was made in due season, and regularly brings the case before this court for review, notwithstanding the delay in its allowance.

This case was begun in the Court of Claims April 19, 1883, and is to be governed in matters of procedure by the laws and rules of practice then in force.

The Revised Statutes of the United States provide:

"SEC. 707. An appeal to the Supreme Court of the United States shall be allowed, on behalf of the United States, from

all judgments of the Court of Claims adverse to the United States, and on behalf of the plaintiff, in any case where the amount in controversy exceeds $3,000." * * *

SEC. 708. "All appeals from the Court of Claims shall be taken within ninety days after the judgment is rendered, and shall be allowed, under such regulations as the Supreme Court may direct."

Rule 3 of the Rules of the Supreme Court of the United States, relating to appeals from the Court of Claims, as adopted by the Supreme Court in 1866, provides that—

"In all cases an order of allowance of appeal by the Court of Claims, or the Chief Justice thereof in vacation, is essential, and the limitation of time for granting such appeal shall cease to run from the time an application is made for an allowance of appeal."

In the absence of any other statutory enactment or rule, it is plain that the filing of the application for allowance of the appeal on the 21st day of August, 1885, judgment having been rendered on the 1st day of June, 1885, and its endorsement by the then Chief Justice, "Let this stand without action as to allowance at present," operated to preserve all rights of appeal, and stayed the running of the limitation of time for granting such appeal.

The provision that "no appeal or writ of error shall be allowed after six months from the judgment or decree in such suit," which appears in section 10 of the act of March 3, 1887 (Supplement R. S. U. S., vol. 1, page 561), has no bearing here, for it is plain that such limitation applies only to cases brought in the circuit and district courts under the provisions of that act.

MERITS.

As to the Patent Features.

The findings of the court below establish the fact that the appellant has, since the year 1842, invented various improvements in ordnance and firearms, relating more especially to cartridges; that he filed several applications for patents, some of which eventuated in letters patent, and that at different periods the appellant communicated his inventions to the officers of the United States Army, who conducted experiments with some of his improvements.

The application for the patent in suit was filed December 28, 1878. The patent was issued February 18, 1879, and is numbered 212,313.

The specification recites that the improvement resides in—

> the peculiar construction and combination of a circular metallic, perforated plate with the circular fulminate-carrier and solid fire-tight metallic case and head in one piece.

The case or shell of the cartridge is of metal open at one end, its other end being closed and solid with the rest of the case, making the cartridge fire-tight. In the base of the shell is a fulminate chamber, which is shown in the drawings as being formed in the center of a circular disk, the chamber itself being of small diameter. Against this disk is placed a circular metallic plate closely fitting within the case, where it is held by contracting or pinching the latter, producing a tight joint around the edge of the plate. This plate at its center forms an anvil beneath which is the fulminate, the anvil affording a firm resistance to a central striker, such as the hammer of a gun, acting on the center of the base of the shell. In this way the fulminate is compressed and ignited with certainty. In

this plate, which forms the anvil over the fulminate, are two perforations or openings upon either side of a central line drawn through its axis. These openings constitute vents through which the fire is diffused into the base of the charge of powder. The instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of fire or waste of the powder.

The vent openings are shown as being so located in the anvil plate that their inner ends are over the fulminate, or nearly coincident therewith. The specification recites:

> The fulminate chamber C may be recessed or formed in the metal of the circular plate E, with the central bar (anvil) *i* and two side perforations *k k* over it, dispensing with the paper.

The claim of the patent follows:

> In the bottom of a solid metallic flanged cartridge case or shell, the combination of a circular base enclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.

The invention forming the subject-matter of the patent in suit was a carrying out or final adoption of the invention clearly indicated in the inventor's application for patent filed in 1865.

As to this application the Court of Claims, in its opinion, says:

> The claim of 1865 does not aid the patent of 1879, as it lacks the latter's distinguishing characteristics.

In this the Court of Claims was in error.

The 1865 application having been found as a fact by the

court below, it will be seen by reference to page 13 of the record that in said application it was stated that in lieu of forming a single hole in the center of an anvil plate

> two or more small holes to vent may be used, with the metal of the plate solid immediately opposite the center.

This is also embraced by the first claim, included in the appeal, and reading (on page 14 of the record) in the language "striking face * * * opposite the central face of the anvil plate."

The finding of the court below evidences the disclosure of this invention by Hubbell in his application for patent filed in 1865.

The court below found that the defendant, prior to the fall of 1866, had confined its experiments and manufacture of cartridges to those known as rim-fire, in which the fulminate was contained in a hollow flange or rim around the base. It was exploded by a blow from the hammer of a gun upon the exterior edge of this flange or rim.

This was followed in the fall of 1866 by some fifteen experimental cartridges, which proved failures. They were of the kind known as center-fire, and all had hollow-flange cartridge cases. In these cartridges the priming fulminate was located in a circular depression in the center of the base of the shell, held in place by a circular piece of metal pressed down over it. Fire to the powder charge was communicated through two holes at the extremities of a diameter of the depression or pocket in the base of the shell, the entire area of these holes opening into the pocket.

This was followed in 1868 by the cup-anvil cartridge, as to which no claim of infringement is made.

After 1868 numerous experiments were made to reinforce the hollow flange to prevent it from bursting, some with single disks and some with cup anvils

The cup-anvil cartridge was manufactured by the Government until some time in July, 1879, when it was abandoned

and the present reloading cartridge, against which the charge of infringement is made, was adopted in its stead. It was found that, owing to the juxtaposition or assemblage of the parts, this cartridge was best adapted to receive with certainty of fire the blows of the striker in the Springfield gun.

The court below found that on March 22, 1879, the appellant communicated the fact of his patent to the Secretary of War, and requested an allowance of royalties for all future cartridges containing his invention.

This reloading cartridge, as made and used by the defendant, comprises a hollow metallic shell having a solid flange or rim around the base, with a pocket in the exterior of the center of the latter, a hole or aperture being formed in the inner wall of the pocket. The anvil disk is located in the pocket and has its vent openings at opposite sides. It is placed within a cup which fits tightly into the pocket in the base. The fulminate is in the center of the cup, directly beneath the anvil—that is, the central solid portion of the anvil disk is over the fulminate. This places the inner edges of the vents nearly coincident with the fulminate. The vents open at their upper ends (supposing the cartridge to be standing on its base) into a groove which is cut across the face of the anvil disk. The flame from the fulminate passes through the vents into this groove, and thence through the hole or aperture in the pocket into the powder within the shell.

The defendant's contention is that the patent in suit is not infringed by the construction embraced in the reloading cartridge, first, because of the difference in the relative position of the vents, it being contended that limitations are to be placed upon the claim by reason of the disclosure of the file-wrapper contents; secondly, because in view of the state of the art, the claim is to be strictly construed; third, because of experiments by the Government prior to the

patent in suit; and, fourth, because of the introduction into the defendant's cartridge of certain additional features not contemplated by the patent.

The defendant insists that to infringe the claim of the patent the vents in the anvil plate must be so placed as regards the axis of the cartridge that all but a very small portion of each vent shall be further from that axis than is the circular wall of the fulminate chamber.

The claim must be construed in the light of the specification.

In the latter it is stated that—

> The plate E is provided with perforations *k k* upon either side of a central line drawn through its axis, as shown at *h h*, figures 2 and 3, sufficient space being left between these perforations to form the bar *i* of a breadth nearly equal to the diameter of the perforation C, immediately over which it rests.

Again:

> The fulminate chamber C may be recessed or formed in the metal of the circular plate E, with the central bar *i* and two side perforations K K over it.

The patentee recites that there are two purposes in locating the vents at the sides of the fulminate, to wit, to diffuse the fire most thoroughly and have an unperforated anvil over and against the fulminate to receive the central blow of the striker, and yet have free escapement for the explosive force from beneath the anvil, thus insuring certain ignition, retention of the anvil in this position, and complete combustion of the powder charge.

In the defendant's cartridge the anvil is located directly over the fulminate, the same as in the patent, and is formed with vents which open into a groove extending across the face of the anvil. The location of the fulminate is directly

beneath the anvil, and the inner edges of the notches or vents are nearly coincident with the chamber where the fulminate is positioned—exactly as contemplated by the patentee's claim.

The proceedings in the Patent Office, as shown by the file-wrapper contents, disclose absolutely nothing to preclude the claim of the patent being interpreted in consonance with the spirit of the invention as described in the specification.

The appellant is not seeking an interpretation of the claim of his patent co-extensive with that of any claim at any time presented and canceled. He insists that the construction employed by the defendant is clearly within the language of his claim as it stands.

The Government's reloading cartridge embodies a solid metallic cartridge case or shell, in the bottom of which, when organized, is a circular base enclosing a central fulminate, an anvil over the fulminate, and vents in the anvil at the sides nearly coincident, at their inner edges, with the central fulminate in the base of the cartridge. This is within the scope of the claim of the patent.

It is not necessary that two machines shall be precisely similar in construction to be identical.

Two devices are identical when they perform substantially the same function in substantially the same way to obtain the same result.

Cantrel *vs.* Wallick, 117 U. S., U. S. R., 689.

The fulminate in the Government's cartridge is placed in the bottom of a cup, the latter at this point forming the fulminate chamber, and the anvil is directly over the fulminate. The inner edges of the vents nearly coincide with this central chamber of fulminate, which in the Government's cartridge is the center of the bottom of the cup. It is this center which forms the fulminate chamber. The

cup is made larger than is necessary to accommodate the fulminate, in order that the anvil may also be fitted within it. This, however, does not destroy the fact that the inner edges of the vents nearly coincide with the fulminate chamber.

This interpretation of the relation of the fulminate chamber to the vent openings in the anvil is supported by the defendant's witness Bartlet.

> 80 X Int. Then you have in a Government cartridge a small fulminate chamber, center circular in a solid flange case, in the inside of the plane of the base of the cartridge shell fired by an indented central striker covered by an anvil plate with two vents at the sides and a bar in the middle, the vents primed from the chamber of the charge and communicating that charge at the base?
>
> Ans. Not quite so; the cartridge does not show how it is to be fired, but presumably it is to be fired as you have stated. I do not think the anvil of the Government cartridge fully covers the fulminate chamber.
>
> 81 X Int. It is fully covered except at the vents, is it not?
>
> Ans. Yes.

The fact that the anvil of the Government's cartridge is fitted within the cup and is provided with a cross-groove, into which the vents open so as to direct the fire through a central opening in the re entrant portion of the base into the powder charge, does not take the construction out of the claim of the patent.

If, in an improved device, the combination covered by an earlier patent be employed, infringement exists.

Elizabeth City *vs.* Pavement Co., 97 U. S., 126.
Shaver *vs.* Skinner Mfg. Co., 30 F. R., 68.
Pitts *vs.* Wemple, 1 Bissell, 87, 1855.
Carter *vs.* Baker, 1 Sawyer, 512, 1871.
Morey *vs.* Lockwood, 8 Wall., 230.
Filley *vs.* Littlefield Co., 30 F. R., 434.

The patents offered in anticipation and found as facts by the court below are:

Letters patent—
No. 53168, Mar. 13, 1866, to A. Moffatt.
78953, June 16, 1868, to R. J. Gatling.
87125, Feb. 23, 1869, to W. Tibbals.
87297, Feb. 26, 1869, to B. S. Roberts.
87735, Mar. 9, 1869, to J. R. Van Vechten.
90607, May 25, 1869, to W. Tibbals.

British letters patent—
No. 2906, Nov. 11, 1865, to J. Millar.
1658, June 5, 1867, to I. M. Milbank.
1184, Apr. 17, 1869, to E. T. Hughes.
1530, May 18, 1869, to J. H. Johnson.

As a careful analysis of these patents will show, not one of them discloses the subject-matter of the claim of the patent in suit. In fact, as to many of them, if not all, consideration seems a work of supererogation.

Patent to Moffatt, No. 53168, does not show the combination claimed. The case is primed with a fulminate, and has a paper wad consumable when the cartridge is fired.

Patent to Gatling, No. 78953, shows and describes a small metallic cup containing the fulminate and fitted within a recess or depression in the head of a second cup inserted in the shell of the cartridge. This latter cup has at its center an outwardly projecting teat against which the fulminate is forced when the cartridge is fired. Adjacent this teat are escape holes or vents. The combination claimed in the patent is not disclosed by Gatling.

Patent to Tibbals, No. 87125, discloses an anvil slightly wider than the diameter of the cartridge shell at the mouth, so that when forced into the bottom it will expand into an open flange. There is no description of a fulminate-carrier,

separate from the anvil and the case, and there is but a single vent in the anvil plate.

Patent to Roberts, No. 87297, relates to a star-shaped anvil having the ends of the several branches fitted within the flange of the cartridge shell. The combination claimed is not found in this patent.

Patent to Van Vechten, No. 87735, shows and describes a thin, flexible material, such as paper, interposed between the fulminate and the back or head of the shell and the anvil cup of the cartridge. This is not a pertinent reference.

Patent to Tibbals, No. 90607, discloses a cup within a hollow flanged metallic case, so inserted as to cover and protect the flange. There is no separate anvil, no fulminate chamber is shown, or any separate fulminate-carrier, separate from the anvil and enclosed in a circular base.

None of these patents contains the elements of the claims of the patent in suit, combined and arranged in relation to each other for the purpose set out in the specification.

British patent to Millar, No. 2906 of 1865, upon which the defendant mainly relies, does not disclose a cartridge having the characteristics of the patented cartridge. It shows and describes disks or wads, presumably of paper, inserted within the base of the cartridge and having spaces to contain the ignition medium. These wads are consumable when the cartridge is fired; they are not secured permanently within the cartridge, nor are they so arranged as to insure certainty of fire. The wads cannot in any sense act as an anvil. The purpose of the two wads was to place in them separate portions of the ignition medium. Upon one disk or wad was placed chloride of potash

and emery, powder of charcoal, while the other wad contained amorphous phosphorus, or the like, which, when the first-mentioned ingredient was forced into contact therewith, would effect ignition.

An air space or chamber formed by paper wads, or a large space, however formed, is not practicable in the use of a fulminate or any great explosive. In fact, a cartridge constructed in accordance with the Millar patent would be exceedingly dangerous, as spontaneous combustion would be likely to occur. While this patent may have a superficial resemblance to the construction employed by Hubbel, yet it is only superficial, as careful examination of the patent will disclose.

The remaining English patents may be briefly dismissed with the statement that they do not disclose anticipatory features, and it is not believed that they are now relied upon by the defendant.

Of these, patent to Hughes, No. 1184, of April 17, 1869, like patent to Millar, No. 2906 of 1865, has a mere superficial resemblance to the combination claimed. The specification of the patent is silent as to the construction of the base of the cartridge in which the fulminate is located. In fact, so far as the cartridge is concerned, the patent has reference solely to the manner in which it is loaded or charged with powder. It is too indefinite to be considered as evidence against the claim of the patent in suit.

The true test of infringement is, Would the subsequent device, if prior to the patent, constitute an anticipation?

Peters *vs.* Active Mfg. Co., 129 U. S., 530.
Thatcher Heating Co. *vs.* Burtis, 121 U. S., 286.
Grant *vs.* Walter, 148 U. S., 554.
Gordon *vs.* Warder, 150 U. S.

Since the defendant's cartridge contains all of the elements of the claims of the patent, had it been earlier in point of time than the patent, it would certainly be a complete anticipation. This being so, under the well-established rule, infringement exists.

There is absolutely nothing in the record to support the contention that the experimental cartridges used by the Government at various stages before the adoption of the reloading cartridge in 1879 constitute anticipation of the claim of the patent in suit.

Whatever experiments were made by the Government prior to 1879 resulted in failures and were abandoned.

Experiments, unsuccessful experiments, abandonment, and non-user are not anticipatory.

> Gamewell Fire Alarm Tel. Co. *vs.* Municipal Signal Co., 10 C. C. A., 184.
>
> City of Elizabeth *vs.* American Nicholas Pavement Co., 97 U. S., 126.
>
> Whitley *vs.* Swayne, 7 Wall., 685.
>
> Seymour *vs.* Osborn, 11 Wall., 516.
>
> Brown *vs.* Guild, 23 Wall., 181.
>
> Gayler *vs.* Wilder, 10 How., 477.

It is submitted, in conclusion, that neither the state of the art nor the proceedings in the Patent Office can preclude the claim of the patent in suit being given an interpretation which its language warrants, and that, given such interpretation, infringement by the Government's reloading cartridge must be found to exist.

In Blanchard *vs.* Beers, in 2 Blatch., 411, Judge Nelson said:

> The same test, and one that a jury should be guided by in all cases of this kind, is whether or not the defendant's machine, whatever may be its form or mechanical construction, has incorporated within it

the principle, or the combination, or the novel ideas which constitute the improvement to be found in plaintiff's machine. If it does, no matter what may be its mechanical construction or form, it is an infringement, an appropriation of the ideas of another, simply in a different form.

In addition to what has been said, attention is also invited to the fact that the defendant herein is not entitled to have the several patents upon which it relies considered by the court for the reason that section 4920, Revised Statutes, provides that where the general issue is pleaded, notice in writing to the plaintiff or his attorney, at least thirty days before trial, must be given by the defendant in order to enable resort to be had to the statutory defenses, while in suits in equity, like proofs may be given upon notice in the answer of the defendant.

The answer of the defendant (page 11 of the record) raises nothing more than the general issue. It is silent as to the patents hereinbefore recited.

Prior patents not set up in the answer cannot be introduced in evidence to invalidate the claim of the patent on the ground of want of novelty, when the claim is properly construed.

Grier *vs.* Wilt, 120 U. S., 412.

II.

As to the Course of Experiments and Manufacture.

As early as April 13, 1865, the appellant Hubbell filed in the United States Patent Office an application for letters patent covering a new and useful invention in center-primed metallic cartridges. The invention claimed was the combination in an ordinary copper-flanged cartridge case of a depression about a quarter of an inch in diameter

in the inner side of the rear or base plate with a copper plate or anvil having one or more perforations or vent holes placed over said depression with its edges extending into the surrounding flange. Fulminate was put into the depression and held in place by the anvil. The advantages claimed by the inventor for the cartridge were:

"The flange being filled up solid prevents it from stripping in extracting the shell. The fulminate being in the center (and not within the outer flange), makes it safer from accidental explosion. The concave plate secured by the outer rim, and held by the groove in the gun, makes a firm base of resistance to the action of the striker to explode the fulminate. The central issue of the fire forward through the gunpowder ignites it uniformly and most quickly."

It was said in the specifications that an anvil having a central vent was the best form of applying the invention,

"though two or more small holes to vent may be used, with the metal of the plate solid immediately opposite the center."

On appeal from the adverse decisions of the primary examiner the inventor adhered to his claim for both forms the opinion of the Court of Claims to the contrary notwithstanding—as note the language of the appeal:

"1. A thinned central rear sufficiently and only large enough to present an annular striking face around the center hole of the anvil plate *and opposite the central face of the anvil plate.*"

There would be no *central face* of the anvil plate unless it was made so by the presence of side vent holes "with the metal of the plate solid immediately opposite the center."

It is plain the applicant for patent persisted, on the appeal to the principal examiners, in his claim of both forms.

The application for patent was refused (Finding II).

April 25, 1872, claimant again unsuccessfully approached the Patent Office for letters patent covering the combination of a metallic cartridge case and—

"a circular centrally perforated paper disk, carrying the fulminate in its central perforation and secured between a circular metal plate similar in galvanic nature to the metal of the case, with an anvil or bridge piece in this circular metal plate over the fulminate, and one or two holes punched through it at one or both sides of the anvil face to admit the fire to the powder, and secured firm down on the paper disk by the pinched-in sides of the case over the middle plate to insure resistance to the fulminate." * * *

"Over this (the fulminate chamber) is placed a circular plate of the same kind of metal as the case or similar in galvanic nature, so as to prevent galvanic action or decomposition. *Two holes through which the fire from the fulminate reaches the powder are punched through this plate, leaving an anvil piece over the fulminate*" (Finding III).

A third application filed by Mr. Hubbell December 28, 1878, resulted in the issue to him on February 18, 1879, of the letters patent here in suit.

A comparison of the description of the patented invention (Finding IV) with the rejected applications (*supra*) shows wonderful similarity in idea and design, and would seem quite to justify claimant's contention that prior to action on his application of December 28, 1878, the examiners were wanting in understanding and appreciation of what his claimed improvement in cartridges embodied.

Claimant, as above shown, first disclosed his idea of an improvement in *center-primed* cartridges April 13, 1865.

Prior to that date and to the fall of 1866 the experience of the defendant in the manufacture of metallic cartridges was limited to making a few *rim-fire* cartridges for experimental purposes. In 1866 about fifteen experimental cartridges,

which proved failures, were made. All had hollow-flange cartridge cases. These experiments were dropped and no more of such kind were made (Finding XI).

In 1868 the defendant adopted the "cup-anvil" cartridge and continued to manufacture and use it until the month of July, 1879, when it was abandoned and the "reloading" cartridge was adopted in its stead (Findings XI, XII).

It thus appears that from 1865 to 1879 the claimant was striving to protect by letters patent an improvement in metallic cartridges which combined certainty of fire with tight jointure and freedom from galvanic action and guaranteed safety in transportation.

In 1879 the Patent Office officials for the first time awoke to the merits of claimant's invention, and February 18 rewarded his persistent and repeated applications for recognition by the issue to him of letters patent. March 22, 1879, claimant informed the Secretary of War of the issuance of such letters patent and asked that his cartridge be used and a fair royalty paid him therefor. In July, 1879, the "cup-anvil" cartridge which had served defendant since 1868 was abandoned and the present reloading cartridge adopted in its stead.

That the "reloading" cartridge infringes appellant's patent rights seems clear. The difference between them is of that slight character which a skilled mechanic, urged to evade a patented article, might readily conceive and put in form.

Gill was the master armorer at the Frankford arsenal from March, 1864, to March, 1881 (Gill's case, 160 U. S., 426).

With Hubbell's patent before him and appreciating the value of the invention covered by it, he set about to evade it, if possible, and on July 29, 1879, made application for letters patent covering an anvil having "a groove extending directly across its face and backward through the

edges," the very form of anvil used by the defendant in the reloading cartridge.

At a glance it will be seen that the combination of such an anvil with a solid-flanged cartridge case and a central chamber of fulminate in the bottom thereof when the latter is struck by the striker of a proper gun performs and was intended to perform the same functions in the same manner that the combination described in the Hubbell patent performs.

It has been repeatedly held that a charge of infringement may be made out even though the letter of the claims of the prior patent be avoided.

Union Paper Bag Mac. Co. *vs.* Murphy, 97 U. S., 120.
Elizabeth *vs.* Nicholson Pavement Co., 97 U. S., 137.
Sessions *vs.* Romadka, 145 U. S., 29.
Hoyt *vs.* Hoyne, 145 U. S., 302.

Upon the whole matter it is submitted that the judgment of this court heretofore entered in cause No. 198 of October term, 1897, should be set aside and the judgment of the Court of Claims in both of the above-entitled causes should be reversed and the causes remanded to that court with directions to enter judgment in favor of the claimant as follows, viz:

No. 13793 for $19,860.07.
No. 16261 for $157,598.98.

FREDERIC D. MCKENNEY,
Attorney for Appellant.

J. NOTA MCGILL,
Of Counsel.

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No. 96. 19

Sup. Ct. of M Kenney for Appt.

Office Supreme Court U. S.
FILED
JAN 10 1900
JAMES H. McKENNEY
Clerk.

Filed Jan. 10, 1900.

IN THE

Supreme Court of the United States.

OCTOBER TERM, 1899.

No. 96.

WILLIAM WHEELER HUBBELL, APPELLANT,

vs.

THE UNITED STATES.

SUPPLEMENTAL BRIEF FOR APPELLANT.

If it is established that the device known as the Government reloading cartridge is within the terms of the letters patent issued to appellant, the contractual obligation of the United States to pay a reasonable royalty for the use of the patented device is fixed. The patent to Hubbell was issued February 18, 1879. March 22, 1879, the patentee informed the Secretary of War of its issue, urged the adoption of the device therein described, and asked that he be allowed a reasonable royalty on all cartridges embracing the patented combination thereafter manufactured by the United States.

The manufacture of cartridges embracing the patented combination was commenced by defendant in July, 1879, and has since continued.

"This is not a claim for an infringement, but a claim of compensation for an authorized use, two things totally distinct in law." * * * The claimant invited the Government to adopt his patented combination, and the Government did so. No tort was committed or is claimed to have been committed. The Government used the claimant's improvements with his consent, and, certainly, with the expectation on his part of receiving a reasonable compensation for the license.

The Court of Claims has jurisdiction to entertain claims and demands of this character, and to render a money judgment in favor of the claimant.

United States *vs.* Palmer, 128 U. S., 262.
United States *vs.* Berdan Firearms Mfg. Co., 156 U. S., 552.

The principle declared in the Palmer case was reiterated and emphasized in Schillinger *vs.* United States (155 U. S., 162), and the two cases carefully distinguished.

The right of recovery in cases like that at bar has been repeatedly affirmed by the Court of Claims.

Hubbell *vs.* United States, 20 C. Cl., 354.
McKeever *vs.* United States, 14 C. Cl., 396 (affirmed by Sup. Ct. U. S., Nov. 20, 1882, without opinion).
Forehand *vs.* United States, 23 C. Cl., 477.

"The policy of the War Department of late years towards inventors has been one of neutrality, neither denying nor admitting legal rights, but taking inventions to perfect Government arms, leaving inventors free to seek redress without prejudice before other tribunals than an executive department.

"Where an inventor is in constant communication with

the ordnance officers, exhibiting his inventions and urging their adoption, and they, without accepting or rejecting his propositions, use the device covered by his patent, a contract will be implied, and an action thereon will be within the jurisdiction of this court."

Berdan *vs.* U. S., 26 C. Cl., 48.
Pasqueau *vs.* U. S., 26 C. Cl., 509.

FREDERIC D. MCKENNEY,
Attorney for Appellant.

Supreme Court of the United States.

OCTOBER TERM, 1899.

No. 96.

WILLIAM WHEELER HUBBELL, APPELLANT,

v.

THE UNITED STATES.

AND

OCTOBER TERM, 1897.

No. 198.

WILLIAM WHEELER HUBBELL, APPELLANT,

v.

THE UNITED STATES.

Appeals from the Court of Claims.

REPLY BRIEF OF APPELLANT.

MISTAKEN STATEMENT.

Beside the *mistaken statement* that the "facts found in cases No. 198 and No. 96 by the Court of Claims are the same," as shown by the two records to be a mistake,—

The opinion of the Supreme Court in No. 198 contains a reservation and exception, to wit:

"It only remains to consider, then, whether any proceedings taken in the Court of Claims since the dismissal of such petition deprived its judgment of its character as an estoppel."

The record of that case is now before this court, and it, on comparison with the record of No. 198, shows that the same state of facts did not exist as found by the court in both cases; that the court made two sets of amendments on hearing the cases together, and filed them only in case 198 and not in case 96, although repeatedly urged so to do; and some of them correcting errors in the former statements of fact, others adding new explanatory facts, and others correcting errors in dates, all of which are very material in a patent case as matters of law. The court did not correct its errors as to all recitals, and the true legal interpretation of the patent. The case 198 was a completed case, while the case 96 was still open to the court's "consideration and such action as it might find just" by special order of court made and filed only in case No. 96, hence No. 198 became first perfected and first appealable, and first allowed by the court below. The defendant should have produced a certified *copy* of the record of No. 96, and not simply stated its contents erroneously in surprise of the claimant, without plea or notice. The Court of Claims misconstrues the Hubbell patent altogether, and the court was not unanimous. The Chief Justice at present did not assent.

On the last argument he distinctly told the defendant's special attorney that the patent was for a combination and the defendant was charged with using it. And what had he to say to that? And he said nothing to that.

The certified docket entries in case No. 96 show that on the 14th of Dec., 1885, no such entry was made as stated in the proceedings stated in case 198, of the same date; and the orders of the court now certified being the cases stated as exceptional in the opinion of Mr. Justice Brown, and explain how the Supreme Court was misled, and the claimant taken by surprise in the case No. 198, and that there were three motions made, not only one as stated:

1. For new trial.
2. For amendment of findings.
3. For reversal of judgment.

And that only No. 1 had been disposed of, and an order of court made and amended for further action and consideration by the court reserving the right to take further proceedings as it might find just, and allowing the same testimony, and replies of War Department, to be used in both cases at the same hearing together.

The cup anvil claim was expressly withdrawn in both case 13,793 and 16,261 and allowed by the court. (See amendment of order, p. 31.)

The System and Functions of the Hubbell Patent 212,313.

The Hubbell patent is to use fulminate to create fire, and convey the fire to a powder charge at the base of the charge, that it shall burn in a *forward* direction as it explodes. It is a perfecting of the American system of a paper cartridge, as distinguished from the German and French system of firing the charge at the base of the bullet, so that it burned *backward* towards the breech of the needle gun of the German army and Chasspot gun of the French.

The American system of burning the powder in a forward direction from the base or breech was in the *old paper*

cartridges of the war of 1776 and the war of 1861–5, and is not claimed in the Hubbell patent claim. The claim is confined to the construction and combination of—

1. The solid flange case of metal.

2. The circular fulminate carrier, and

3. The circular perforated plate anvil of metal, inclosed above the fulminate, and held with tight jointure; to be indented, and ignite the fulminate, and admit its explosive fire out of the fulminate chamber in the base of the cartridge, or *rear* of the anvil, through it, and into the base of the powder charge in *front* of the anvil, "the charge being consumed from the base forward without reaction of the fire or waste of the powder," and "this assures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge from the base forward, as it impels the bullet out of the gun." (See patent.

P. 28–29, Transcript:

"F is the space in the cartridge, which is loaded as *usual* with a charge of powder and bullet of any desired weight and shape.

"The fulminate chamber C may be recessed or formed in the *metal* of *the circular plate* E, with the central bar *i* and two side perforations KK over it, dispensing with the paper. The central anvil affords a firm resistance to a central striker acting on the center of the base L, and compressing the fulminate to ignite it with certainty.

"The two side vents diffuse the fire into the base of the charge of powder, and its instant explosion presses back the circular anvil plate, and prevents it from being blown out in the barrel, the charge being consumed from the base forward without reaction of the fire or waste of the powder."

And p. 29, Transcript:

"This assures a certain ignition, security of the anvil

plate to keep its position, and a complete combustion of the powder-charge, from the base forward, as it impels the bullet out of the gun.

"This mode of construction also embraces the three parts of the combination in metal. Having thus described my invention, what I claim *as new*, and desire to secure by letters patent, is—

"In the bottom of a solid metallic flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings, whose inner edges *nearly* coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described."

Thus amended the claim agreed with the second paragraph of the specification.

This part of the specification expresses the functional principle of an inclosed flat-based metallic cartridge containing bullet powder charge, and fulminate, to load rapidly into the breech of a gun, and fire by a pointed indenting striker first igniting the fulminate, which fires the charge of powder at its base and it burns forward in direction as it impels the bullet before it out of the cartridge case, and out of the gun; and the Exhibit Drawing of Feburary 8, 1842, found by the court shows it as invented then by Hubbell for a machine rapid-fire gun.

Fulminate is a detonate and explodes instantly, and is instantly released from its centre of ignition at the bar *i*, centre, in the fulminate chamber, not diffusing itself through a central perforation, as such perforation would prevent its ignition; but from this centre of the bar, *i*, each way through the side openings, with free escapement through the openings, *burning any priming* in *them, and into the base* of *the powder charge*, or rear end of the charge, which charge of powder instantly exploding by the

intense fire of the fulminate present, progressively burns from the circumference of its grains to their centres as it impels the bullet from the cartridge and out of the gun.

Gunpowder burns progressively; fulminate burns instantly with detonating power; all as comprised in the language of the patent (p. 29). "Priming" is only that part or grains of the powder charge which descend into the vents, and is *not* "*fulminate*." To fire the charge at the base in the cartridge case is the Hubbell system of firing, first contained in his cartridge of February 8, 1842. Exhibit Caveat filed April 13, 1865, and in their application both with anvil chamber 1842, and anvil separate "1858" filed April 13, 1865, afterwards perfected into a tight jointure system, January 17, 1872, proportioned in 1874 and 1878, and perfected in 1878 in diameter of chamber, and anvil face, bar *i*, and ventage in a cartridge with solid flange and metal case, and also a fulminate carrier separate, all combined constituting the cartridge as used by the defendant, patented to Hubbell February 18, 1879.

As well known, the needle gun of the Prussians burned its charge from the base of bullet carrier, backward to the breech of the gun, in a paper case.

The Hubbell system of burning the powder from the base forward towards the bullet is far superior, in its inclosed case with fulminate, all to load at the breech at one insertion together; and Hubbell both first invented the parts, and also first practically combined the parts, and how to fire them by a compressing striker.

Science of Description as Well Known.

There is no law of gases but one of "*diffusion*"; gas does not concentrate itself, hence the patent and Patent

Office are right in its allowance; and the Court of Claims is in error in its opinion that Hubbell in 1865 *concentrated* the gas. At that time the central vent in an annular anvil was for a gun with *oblique* motion of firing pin, and the two vents with central bar *i*, was for a gun with *axial* motion of firing pin. Hubbell had both guns and both anvils, centre fire, so called, as contradistinguished from rim fire; and shown in the Exhibit 1858 to the application of April 13, 1865, as found in the Amendment of Findings of Court filed in the case No. 198 (16261).

The "openings" of the anvil face, one each side of the bar, are for free escapement. (See original drawing filed and certified in Transcript.)

Paper and tin-foil do not obstruct fulminate fire, they are well-known keepers of fulminate; and their transverse extensions in both modified forms of Hubbell and of defendant's cartridge, are *channels* leading to the seat of the charge, and allowing its powder or priming to come by *gravity* in its descent in loading them, close to the openings of the fulminate in its chamber, in *rear* of *the anvil face.* The openings, in fact, in all three are wholly over the fulminate; and their inner edges curve from the sides of the carrier towards the center, and back again; nearly agreeing or nearly coinciding in mechanics with the walls of the sides; resulting in the firm bar *i*, in the middle, to secure an explosion of the fulminate, and a free escape forward of its fire. The fulminate and its devices are first secured in the bottom of the case before it is loaded and primed with powder and bullet; never afterwards, as it would be unsafe, and might accidentally explode. (Fig. 1 of patent.)

The "openings" and channels are practically wholly over the fulminate chamber, also the anvil bar, also the circular anvil face with its thick edges, and transverse strength

holding the carrier or cup in water and fire tight jointure to the walls of the case. And the functions in all three are identically the same, to create and convey fire to the powder.

The claim of Hubbell, however, is confined to the firing devices of the fulminate. The "priming" of the charge in front of the anvil gives the same function usual in all American guns, and is not in the claim.

"No central stream from fulminate chamber" is added, to "*distinguish*" from Patent Office references of Howe's wafer across, with central conical vent, small, and no central chamber, no central anvil, but a side rim anvil with central stream out of the fulminate chamber across the body of the case; and from Smith & Wesson's plate across the case, with central hole and pellet in it, and space clear across the diameter of the case, both for cylinder pistols and experimental. (Exhibit Bartlett and Gallatin found.)

"Diffuse" is the law of motion of gas, and only law.

The gun shoots by diffusion of its gas generated by its fire "into the base of the powder charge" from the base forward as it impels the bullet out of the gun" (p. 29, Transcript).

In Conclusion.

The two openings through the anvil discharge the fulminate fire together, in the front of the anvil, between the edges of the overlap or "*contraction*" of the case, in front of the anvil; the two streams of fire come together into the base of the charge of powder with its priming, burning it, the powder, forward as it impels the bullet out of the gun; both in the defendant's cartridge, and as specified in the Hubbell patent; and by means of the same combination of *solid flange case, circular fulminate carrier, and plate anvil*, embraced by the claim of the

patent and with certainty of fire, and instant effect as specified in the patent (p. 28–29).

The defendant's version of the specification (p. 21 of Brief) would not constitute a combination at all, and would be impracticable for a cartridge, in the making, in the keeping, and in the use. It would not have the separate circular fulminate carrier held in tight jointure by the anvil.

As to *laches*, so alleged by the defendant, it is not a "promotion of science, by securing the inventor," reposed in the United States specifically and exclusively, by the Constitution of the United States.

The defendant appointed Mr. Douglass and Mr. Whitman, who were claimant's counsel in case 13,793 and 16,261, to offices,—Douglass as District Commissioner, and Whitman as in charge of the Bell Telephone case,—who thereby became disqualified to remain claimant's counsel, and consequently resigned, and requested to be released, causing claimant a loss of several years of time and his labor in instructing them in the science of his invention.

He then engaged Judge Pettis, who became injured accidentally and out of health, and was released as counsel. He then appointed Mr. Boutwell, who moved afterwards away to Boston. He then appointed Mr. Dewees, who lost his health and died, and finally engaged Mr. McKenny with Mr. Boutwell.

Thus it is that the acts of the defendant and of Providence caused him delay. Also, the defendant was never ready to argue the case, until the two were consolidated and argued, and the defendant's special counsel informed the court that he did not understand the proposed amendments filed by claimant, and filed no exceptions to them, nor any objections. Mr. Whitman also had died; also Chief Justice Richardson died.

The orders of the Court of Claims as to amendments and

as to the appeals all came within the rules and practice laid down by the Court of Claims and the Supreme Court. And there was no delay because of any action nor of omission by claimant.

The judgment of the Court of Claims was not with the concurrence of the present Chief Justice; the defendant's special attorney is in error in saying it was unanimous.

The appeals to this Supreme Court, first of No. 198 and after of No. 96, were completed and allowed in the same order of precedence as completed under the orders and allowances of the Court of Claims, and as made ready finally for appeal respectively without delay, on completion, and now as one case are here together.

WM. WHEELER HUBBELL,
Attorney and Claimant.

The amended finding XII of the Court of Claims establishes the superiority as follows (No. 198, p. 22):

"Owing to the juxtaposition, construction, arrangement, and combination of its parts, this cartridge was best adapted to receive with *certainty of fire* the blows of the striker in the Springfield gun."

The Hubbell patent says: "The fulminate chamber C may be *recessed* or formed in the *metal* of the circular plate E (pars. 6–8), with the *central* bar *i*, and two *side* perforations *k k over it* (the fulminate chamber), dispensing with the paper. The central anvil affords a firm resistance to a central striker acting on the center of the base L, and compressing the fulminate to *ignite it with certainty*. The two side vents diffuse the fire into the base of the charge of powder," and "this assures a *certain ignition*, security of the anvil plate to keep its position, and a *complete combustion* of the *powder charge* from the base *forward*, as it impels the bullet out of the gun."

The Hubbell patent and the amended finding XII (p. 22) as corrected to 1879 on p. 23 agree on the superiority of the cartridges in construction and combination to be *certainty* of *fire*, and *identical* in *make* and *results*, a cartridge that *never fails*.

WM. WHEELER HUBBELL.

Supreme Court of the United States.

OCTOBER TERM, 1900.

No. 19.

WILLIAM WHEELER HUBBELL, APPELLANT,

vs.

THE UNITED STATES.

PETITION FOR REHEARING.

And now comes the appellant, William Wheeler Hubbell, by his attorney, and petitions this honorable court for leave to file this his petition for a rehearing of the above-entitled cause, heretofore decided at the present term of the court.

As grounds for such motion petitioner respectfully represents that there is error in the opinion and judgment of this honorable court in the following particulars, to wit:

First. In the misstatement of the claim of the patent in suit by omitting therefrom a vital element of the invention, to wit, the anvil over the fulminate.

Second. In the interpretation of the claim of the patent by holding that during the pendency of the application for

patent the claim as originally made was narrowed in scope, and therefore not entitled to a liberal interpretation.

I.

In stating the claim of the patent in suit at page 4 of the pamphlet edition of its opinion the court omits to mention the anvil as an element of the combination.

The claim of the patent and the claim as stated in the decision are here placed in parallel columns, the italics in the first column being the words omitted by the court.

CLAIM OF PATENT.	CLAIM AS STATED BY THE COURT.
In the bottom of a solid metallic-flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate *and an anvil over the fulminate* provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.	In the bottom of a solid metallic-flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described.

II.

The court in its decision holds that the claim of the patent was narrower in scope than the claims originally presented in the application.

It is respectfully submitted that this is error.

The original application embodied three claims. The first specifically defined the anvil plate by letter of reference, and described its construction as consisting of a central solid resisting piece *i*, and two or more side perforations *k k*, substantially as described.

Under the rulings of this court, the expression "substantially as described" refers back to the description contained in the specification.

Seymour *vs.* Osborne, 11 Wall., 516.

Railroad Co. *vs.* National Car Brake Co., 110 U. S., 229.

That description defines the side perforations as having the relation to the fulminate chamber set forth in the claim of the patent.

The second claim identified the anvil plate by reference letter, and its specific construction is embodied in said claim by the expression "constructed as described." This claim also included specifically the fulminate-carrying disc in a metal solid fire-tight case.

The third claim, which is quoted by the court (page 5 of its decision), as the ground for the holding that the claim of the patent is narrower in scope than the original claims, embraced a circular metallic tight-fitting plate perforated into a central fulminate chamber, *leaving a central solid or unperforated bar over the fulminate chamber.*

This claim, in specifying the anvil plate as being perforated into a CENTRAL fulminate chamber and as leaving a central solid or unperforated bar over the fulminate chamber, is no more comprehensive in scope than the claim of the patent as granted, which specifies an anvil over the fulminate provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate, since *it would be impossible to construct an anvil plate having the characteristics specified in the original third claim without also having present the characteristics called for by the claim of the patent.*

THE UNDERLYING FEATURE OF THE INVENTION IS A SOLID ANVIL DIRECTLY OVER THE FULMINATE WITH SIDE OPENINGS THROUGH WHICH THE FORCE OF THE EXPLODED FULMINATE MAY PASS. The specification recites that—

* * * the central anvil piece has no central aperture, is as wide as the fulminate filled chamber, and the perforations are at the extreme outer sides of this fulminate for two purposes. One is to diffuse the fire from this center most thoroughly. THE OTHER IS TO HAVE AN UNPERFORATED ANVIL OVER AND AGAINST THE FULMINATE * * * TO RECEIVE THE CENTRAL BLOW OF A STRIKER AND OBTAIN COMPLETE RESISTANCE BY THE ANVIL BAR, AND YET HAVE FREE ESCAPEMENT FOR THE EXPLOSIVE FORCE AT ONCE FROM BENEATH THE ANVIL PLATE without any chamber or space for it to expand into under the plate.

The drawing of the patent shows the fulminate chamber located immediately beneath the central solid bar of the anvil and two side openings for the passage of the explosive force of the fulminate. It is impossible to construct an anvil having the characteristics called for by the original third claim, to wit, perforated into a central fulminate chamber, leaving a central unperforated bar over the fulminate chamber, without running into the teeth of the claim of the patent. "Two openings whose inner edges nearly coincide with those of the central chamber of fulminate" is merely another form of expressing the same invention as that covered by the original third claim. Whatever distinction exists is one of expression and not of substance. The invention is the same in both instances. The patentee, both in the original third claim and in the claim of the patent as allowed, sought to protect an anvil having a central solid portion and also openings into a fulminate chamber beneath such solid portion.

THE DEFENDANT'S CARTRIDGE SHOWS IDENTICALLY THE SAME ELEMENTS, to wit, an anvil having a central solid portion directly over the fulminate, and two side openings through which the explosive force of the fulminate is free to pass.

On page 35 of the transcript of record the drawing "United States Army Service Cartridges" shows the solid part of the anvil marked *e*, the fulminate chamber marked *g*, and two side openings through the anvil marked *f f*.

Whatever difference there is between the patentee's cartridge and that of the defendant RELATES TO THE CONTROL OR DISSEMINATION OF THE EXPLOSIVE FORCE AND NOT TO THE MECHANICAL CONSTRUCTION BY WHICH THE EXPLOSION IS INDUCED. The invention protected by the patent resides in this construction and not in a function resulting therefrom. In the cartridge of the patentee and in the defendant's cartridge the anvil is constructed "to receive the central blow of a striker;" "complete resistance by the anvil bar" is secured, "and yet have free escapement for the explosive force at once from beneath the anvil plate."

The fact that the explosive force after passing through the two side openings in the anvil of the defendant's cartridge is controlled in its entrance to the powder charge by improved means does not free the cartridge of the charge of being an infringement of the patent in suit.

The fact that the part changed, in a patented combination, works better in the location where the defendant puts it than where the complainant put it makes no difference if it does the same work, though in a better degree. The result is the same.

Adams *vs.* Joliet Mfg. Co., 3 B. & A., 1.

It is well settled that the addition of a mere improvement does not free the device from the charge of infringement of a prior patent if the elements of that prior patent are used in the improvement.

McCormick *vs.* Talcott, 20 How., 402.
Chicago & N. W. R. R. Co. *vs.* Sayles, 97 U. S., 554.

The one fundamental feature for which Hubbell was contending was the production of an anvil having solid metal directly over the fulminate chamber, and which at the same time would be provided with openings so arranged as to allow of the passage of the explosive force of the fulminate without impairing the strength or stability of the anvil itself.

All of these characteristics are present in the Government's cartridge. The solid portion of the anvil is directly over the fulminate chamber, and the openings for the passage of the explosive force of the fulminate are at opposite points or on either side of the central solid part. Whether the Government's cartridge provides additional means for subsequently controlling the passage of the explosive force after it passes through these side openings from the fulminate chamber is immaterial. The fact that a face groove connects these two side openings, and that the flame is diffused into the powder chamber in a central stream after leaving this groove, should not control the determination of the question of infringement.

It is again respectfully submitted that IN THE GOVERNMENT CARTRIDGE IS TO BE FOUND EACH AND EVERY ELEMENT OF THE CLAIM OF THE PATENT. There is present in such cartridge, in the bottom of a solid metallic flange case or shell,

a circular base enclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings, whose inner edges nearly coincide with the central chamber of fulminate in the base of the cartridge.

The coincidence of the openings is absolutely necessary to insure the passage of the explosive force of the fulminate from the fulminate chamber through the anvil, or at the sides of the central solid portion thereof, before entering the powder chamber.

At most it is a mere matter of degree how deep the side openings (marked *f f*, page 35, Transcript of Record) may be made. What is required is that these side openings have such relation to the fulminate chamber and to the central solid portion of the anvil that the explosive force of the fulminate will pass through these openings to get beyond the anvil in seeking access to the powder charge. *It must be borne in mind that although the anvil in the defendant's cartridge is contained within a cup which also holds the fulminate, the fulminate itself, and hence the fulminate chamber, is that part directly beneath the solid portion of the anvil, and with this chamber or fulminate-retaining space the inner edges of the side openings* (*f f*, page 35, Transcript of Record) *nearly coincide.*

Although the Government's cartridge may embody improved features over the Hubbell cartridge, yet nevertheless, as before pointed out, there is present in the Government's cartridge every element and characteristic of the Hubbell invention, combined and arranged relatively to each other and designed to operate in substantially the

same manner and under substantially the same conditions, as contemplated by the appellant's patent.

It is again respectfully submitted that the claim of appellant's patent as granted is as broad as the claim originally submitted. Whatever differences exist between the claims as made and allowed consist of mere changes of expression, made to meet the views of the examiners, but nevertheless having substantially, if not identically, the same meaning. Such changes of expression ought not to be permitted to defeat a meritorious claimant who is entitled to and should be accorded a fair construction of the terms of his claim as embodied in the patent granted. If the defendant's reloading cartridge, as contended, embodies within itself every essential element and feature of the appellant's invention combined and arranged and designed to operate in substantially the same manner under substantially the same conditions as is contemplated by the appellant's prior patented device, it would seem that neither a nice sense of justice nor the established principles of the patent laws of the United States as administered by this court should deprive the latter of the merited fruits of his inventive genius.

It is respectfully submitted that the judgment of the Court of Claims should have been reversed and judgment entered upon the findings in appellant's favor.

FREDERIC D. MCKENNEY,
J. NOTA MCGILL,
Attorneys for Appellant.

In the Supreme Court of the United States.

OCTOBER TERM, 1899.

WILLIAM WHEELER HUBBELL, appellant, v. THE UNITED STATES. } No. 96.

APPEAL FROM THE COURT OF CLAIMS.

APPELLEE'S BRIEF.

STATEMENT OF THE CASE.

On December 28, 1878, the appellant filed in the United States Patent Office an application for a patent for an improvement in metallic cartridges, the claims being as follows:

> 1st. The circular plate E, constructed with central solid resisting piece *i*, and two or more side perforations *k*, *k*, substantially as described, applied within a metal case, with cylinder and rear end solid and tight, thereby requiring the insertion of the plate and charge and priming from the front, igniting the charge and remaining fire-tight in firing as described.

2nd. The circular plate E, constructed as described in combination with the circular disc D, and metal solid fire-tight case A, substantially as shown and described.

3rd. A circular metallic tight-fitting plate perforated into a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid fire-tight metal case, substantially as set forth. (Rec., 16, 24–25; see figure, Rec., 28.)

The examiners held that all of these claims had been anticipated by prior patents and rejected the application. Thereupon the claimant amended his specification by a more specific description of the precise features of what he alleged to be his invention, and substituted the following as his claim:

In the bottom of a solid metallic flange cartridge case or shell the combination of a circular base enclosing a central chamber of fulminate and an anvil over the fulminate provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described. (Rec., 26–27.)

Upon that claim letters patent No. 212313 were granted to him February 18, 1879. (Rec., 16.)

On March 22, 1879, appellant notified the Secretary of War that his patent had been granted, and asked an allowance of royalty on manufactures of the cartridges protected thereby. (Rec., 20.)

From March 1, 1879, to March 31, 1883, the United States manufactured 14,714,082 "cup-anvil" cartridges, and after February 18, 1879, used 2,700,000 of such

cartridges which had previously been made. This type of cartridge is as follows:

The shell is of metal, with a rim around the rear end, which is not perforated. The fulminate is contained in a circular pocket on the rear side of the base of a metal cup which is inserted in the cartridge and rests on the base of the cartridge, being held in place by crimping the walls of the shell over the edge of the cup at its open end. Fire is communicated from the fulminate to the powder by two holes in the bottom of the cup at either end of a diameter of the said pocket, the whole area of these holes being over the fulminate chamber. A portion of the top of the pocket, or bottom of the cup, between the two holes, serves as the anvil to resist the blow of the hammer or firing pin. (Rec., 19.)

From February, 1879, to March 31, 1883, the United States manufactured 3,866,352 cartridges of the following type, viz, a hollow metallic shell, with solid flanged base, and a pocket in the exterior of the center of the base, this pocket being pierced at the center of the top (supposing the cartridge to stand upon its base) by a single aperture to carry the fulminate flame to the powder chamber. This shell, when in use, contains within the powder chamber only the powder and the bullet; a small anvil plate or disk, and a small metal cup containing fulminate being inserted into the pocket, so as to ignite the charge when the cup is struck by the firing pin. The anvil disk has a groove across the upper side, and notches cut out of the disk at each end of this groove, so that when the disk is in place the entire

area of each of these notches is over the fulminate chamber, and the fulminate flame passes through the notches to the groove, and by the groove to the powder chamber through the aperture at the top of the pocket. That portion of the disk which is between the notches serves as the anvil. The complete cartridge, with this type of anvil disk, was known as the "reloading" cartridge. (Rec., 19.)

This type of shell (though with a somewhat different type of primer in the pocket) is shown on Plate LIX in an official publication of the War Department, entitled Ordnance Memoranda, No. 14, published in 1873.

In 1864 the officers of the United States Army began experiments in the manufacture of center-fire cartridges which led up to the adoption of the "cup-anvil" cartridge in 1868, and later the adoption of the "reloading" cartridge above described. (Rec., 18.)

On April 19, 1883, appellant filed a petition in the Court of Claims, alleging, *inter alia*, that the "cup-anvil" and "reloading" cartridges made and used by the United States as stated above were covered by his patent No. 212313, and had been made and used under an implied contract to pay a reasonable royalty therefor. (Rec., 1.) After trial the petition was dismissed June 1, 1885, whereupon the claimant, on August 21, 1885, filed a notice of his application for an appeal to this court, but did not ask for allowance of his application until June 7, 1898, when the appeal was allowed. Prior to the allowance of the appeal, viz, on November 12, 1891, the claimant filed a waiver of all claim on account of the manufacture and use of the cup-anvil cartridge. (Rec., 31.)

BRIEF OF ARGUMENT.

Preliminary remarks in regard to the record.

As the record in this case contains some matter of a character not usually appearing in records transmitted by the Court of Claims, some consideration of this matter, and of how much of it should properly have been included in the record, seems to be necessary.

Pages 12 to 20 of the record contain the eight findings of fact originally filed by the court below on June 1, 1885, when the judgment was rendered. On pages 24 to 27 is what is called an additional finding of fact, viz, a statement that the defendant had requested the court below to find certain facts, admitted by the court below to be shown by the records of the Patent Office, as to the action of the Patent Office upon the appellant's original application for the patent in suit, and as to the changes made by the appellant in his specification and claims in consequence of that action, this statement being accompanied by a statement of the court's refusal to find these facts, for the reason that they "do not constitute such facts as the court is required to find under rule 1 of the Supreme Court relating to appeals from the Court of Claims."

Following this additional finding of fact is the patent in suit (on pages 27 to 29), which had already been printed in full in Finding IV (Rec., 16 to 18), with the drawing, which had not been included in that finding. Why the specification and claims of the patent should be twice spread upon the record does not appear.

Page 30 contains statements of the entry of judgment on June 1, 1885, and of the allowance of the appeal on June 7, 1898.

The lower part of page 30 (beginning with what appears below the marginal figure "36") and pages 31 to 37, down to the certificate, contain matters which (with one exception), it is submitted, should not have been included in the record at all, being wholly irrelevant. They consist of—

(1) A series of motions made by the claimant (the appellant) after the judgment was entered, in regard to amendments of the findings of fact (including briefs of argument upon some of these motions), all of which motions were overruled by the court below. These motions are of the following dates:

August 14, 1885. (Rec., 30.)
April 28, 1896. (Rec., 33.)
May 9, 1896. (Rec., 34–36.)
May 29, 1896. (Rec., 33–44.)

(2) The claimant's application for an appeal. (Rec., 32.) This is of course properly in the record, though it should have preceded the entry of the allowance of the appeal.

(3) Motions to print certain matter for the use of the court below, and in regard to the hearing of arguments in the court below. (Rec., 31, 32–33.) These motions were allowed, but there is no reason why this record should be cumbered with them.

(4) A transcript of certain docket entries in the court below, subsequent to the judgment. These also are wholly irrelevant.

As already stated, the above motions for amendments of findings are irrelevant. It is true that motions of this character, though made after judgment, may be relevant on an appeal, where it appears that the court below was satisfied with the proof of the facts stated in the amendments requested. The rules of this court prescribe the character of the findings that are to be made. Whether the truth of any finding which the court below is requested to make is proved by the evidence adduced in its support has to be determined by the court below in its capacity of a jury; and if it refuses to make the finding because it deems it not to be satisfactorily proved by the evidence, such refusal involves no error in law, and is not the subject of review by this court. It is only when the facts which the court below is requested to find are admitted by it to be proved, but the court below refuses on some legal ground to make the finding, that a statement of the request for a finding and of the refusal can present any legal question for the determination of this court. Finding IX (Rec., 24–27) raises such a question, because the court below states in that finding that the facts which appear in it "*are shown* by the file wrapper and contents in the United States Patent Office in the matter of letters patent No. 212313," and that it refuses to find these facts because it holds "that the file wrapper and contents on an application for a patent do not constitute such facts as the court is required to find under rule 1 of the Supreme Court relating to appeals from the Court of Claims." This raises the distinct question of whether rule 1 does or does not contemplate,

in suits on patents, a finding of the facts shown by the file wrapper and contents.

No legal question, however, is or can be raised by any of the appellant's requests for amendment of findings, because the appellant's right to have such amendments made depends upon the evidence adduced in the court below, at the trial, in support of these amendments, and that evidence can not, under the rules of this court, come before it on appeal. For instance, the motion of May 29, 1896 (Rec., 33, 34), concerns additional findings which were made in another suit between the same parties, which findings the appellant wished to have made in this suit. The propriety of making such findings in this suit necessarily depends upon whether, at the trial of this suit in 1885, the court below had before it the evidence to sustain such findings. If it had not, the mere fact that such evidence was presented in another suit, tried more than ten years later, can not possibly affect the case, and the question of whether the court below, at the trial of this present suit, had before it evidence to sustain the additional or amended findings requested is one which this court can not possibly entertain.

So of the various additional findings requested in the motion of May 9, 1896. (Rec., 34–36.) Their propriety, supposing them to be relevant, depends entirely upon whether the evidence before the court below, at the trial in 1885, warranted such findings; but this is a question into which this court can not enter. As to the various exhibits and models which the court below was requested to make a part of the record, but which it

refused to include therein (Rec., 35, 36), there is nothing to show whether such request was made before the judgment was rendered. If it was not, the refusal of the court below, after judgment, to incorporate into the findings matters which it had not, before judgment, been requested to so incorporate, would not be error, such incorporation after judgment being, if proper at all, wholly discretionary with the court below.

It is therefore submitted that no part of the record between marginal figure "36," on page 30, and marginal figure "49," on page 37, can be considered by this court, except the application for an appeal, on page 32.

The patent in the light of the file wrapper and contents.

It is submitted that patent No. 212313 was granted solely for a cartridge with an anvil plate "provided with two or more openings, whose *inner* edges nearly coincide with the edges of the central chamber of fulminate," a feature not found in the reloading cartridge.

This court has frequently held in suits on patents that the evidence, contained in the file wrapper and contents, of the proceedings of the Patent Office upon the application for a patent, is relevant as showing the precise matter for which the patent was granted. It is true that the correspondence between the applicant for a patent and the Commissioner of Patents or his examiners can not be allowed to enlarge, diminish, or vary the *language* of a patent afterwards issued—that is, it can not have the effect of adding any words to the patent or taking any from it—but when it comes to the *interpretation* of the

language used, the understanding of the applicant and the Patent Office is of some importance as evidence. (*Goodyear Dental Vulcanite Co.* v. *Davis*, 102 U. S., 222, 227.)

This understanding of the parties is especially important where the applicant for a patent for a combination has been compelled by the rejection of his original application to narrow his claim by the introduction of a new element, or of limitations or provisos. In such a case he can not afterwards contend that his patent should be interpreted as if the element so introduced were not an essential feature of the combination, or that the limitations or provisos should not be strictly construed against him. (*Sargent* v. *Hall Safe and Lock Co.*, 114 U. S., 63, 86; *Shepard* v. *Carrigan*, 116 U. S., 593, 597; *Sutter* v. *Robinson*, 119 U. S., 530, 541; *Crawford* v. *Heysinger*, 123 U. S., 589, 607; *Roemer* v. *Peddie*, 132 U. S., 313, 317; *Dobson* v. *Lees*, 137 U. S., 258, 265; *Knapp* v. *Morss*, 150 U. S., 221, 229; *McCarty* v. *Lehigh Valley R. R. Co.*, 160 U. S., 110, 119.)

Similarly, where a claim has been rejected, and such rejection acquiesced in by the applicant, this fact is important as estopping him from contending that the remaining claims, or any of them, should be so construed as to cover the subject-matter of the rejected claim. (*Morgan Envelope Co* v. *Albany Paper Co.*, 152 U. S., 425, 429.)

The differences between the specification and claims of a patent as granted and those upon which the application was made—the abandonment, rejection, or modifica-

tion of claims, and the introduction of limitations or provisos—are disclosed by the file wrapper and contents, and by nothing else. To determine the proper construction to be placed upon the claims of a patent, it is therefore necessary "to consider the *action of the Patent Office* upon the original application of the patentee" (*Knapp* v. *Morss*, 150 U. S. 221, 224), or, in other words, to consider the file wrapper and contents. As is stated in Robinson on Patents, section 1015—

> The principal documentary evidence available in actions for infringement is drawn from the files and records of the Patent Office. * * * The application for the patent and the correspondence of the applicant with the Patent Office in explanation or assertion of his rights may be produced as declarations accompanying an act, and as tending to define the nature of a patented invention, and the relations toward it of the applicant and patentee.

Hence the facts shown by the file wrapper and contents are essentially relevant and material to an issue involving the construction and interpretation of the claims of a patent.

In view of the practice of this court to consider the file wrapper and contents, the court below was asked to make a finding of the facts as to the proceedings in the Patent Office as they appeared in the file wrapper and contents; but the court declined to do so on the ground that the proceedings in the Patent Office "do not constitute such facts as the court is required to find under Rule 1 of the Supreme Court relating to appeals from the Court of Claims." (Rec., 27.) Believing, however, that the court

below was in error on this point, counsel for the appellee requested that court to make an additional finding, stating the facts disclosed by the file wrapper and contents, and that the court had been requested to find them, and had refused. This was accordingly done, as appears from pages 24–27 of the record.

In a later case the Court of Claims took a different view of Rule 1, and has included in its findings the substance of the proceedings in the Patent Office, as evidenced by the file wrapper and contents (*Kelton* v. *United States*, 32 C. Cls. R., 314; see Finding XII, pp. 329–334); so that if the findings in the present case had been made according to the practice followed by the Court of Claims in the Kelton case, a finding as to the proceedings in the Patent Office would have been made in the first instance.

This additional finding raises no question of evidence, nor in any way conflicts with the rule requiring the findings to contain "the facts in the case established by the evidence in the nature of a special verdict, but not the evidence establishing them." The court below has admitted that the facts stated in this finding are actually shown by the evidence (viz, the file wrapper and contents), but has denied that they are "such facts as the court is required to find." This raises the simple question of whether rules of this court require the court below to find such facts when requested, and if this question be (as, it is submitted, it certainly should be) decided in the affirmative, then the court may properly treat the facts, thus brought before it, as if they had been found in the usual way. Moreover, the matters disclosed in the file wrapper and contents in an application for a patent must

have precisely the same materiality and must be admissible in evidence to precisely the same extent in a suit against the United States in the Court of Claims as in a suit between private parties in any other court. The facts shown by the file wrapper and contents will, therefore, be referred to as if they had been originally incorporated in the findings by the court below.

The first point of difference to be noted between the cartridge covered by the appellant's patent and the Government reloading cartridge is that in the former only a very small portion of the openings in the anvil are over the fulminate chamber, while in the latter the openings are wholly over that chamber. As to this it is submitted:

THE RELATIVE POSITION OF THE VENTS AND THE CIRCULAR WALL OF THE FULMINATE CHAMBER IS A MATERIAL PART OF THE APPELLANT'S PATENT—I. E., THESE VENTS MUST BE SO PLACED AS REGARDS THE AXIS OF THE CARTRIDGE THAT ALL BUT A VERY SMALL PORTION OF EACH VENT SHALL BE FARTHER FROM THAT AXIS THAN IS THE CIRCULAR WALL OF THE FULMINATE CHAMBER.

In the appellant's original application of December 28, 1878, the specification (Rec., 24, 25) ended just before the paragraph beginning on the sixth line of page 29 of the record, and the claims were as follows:

> First. The circular plate E, constructed with central solid resisting piece *i*, and two or more perforations *k k*, substantially as described, applied within a metal case, with cylinder and rear end solid and tight, thereby requiring the insertion of the plate and charge and priming from the front, igniting the charge, and remaining fire-tight in firing as described.

Second. The circular plate E, constructed as described, in combination with the circular disk D, and metal solid fire-tight case A, substantially as shown and described.

Third. A circular metallic, tight-fitting plate, perforated into a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid fire-tight metal case substantially as set forth.

The examiners rejected these claims; the first and third upon those of Moffatt, 53168, Tibbals, 90607, and English patent 2906 of 1865; and the second on the English patent alone.

Forced to limit his claim to some feature which these prior devices did not contain, the appellant amended his specification by adding the paragraph (Rec., 26) describing the *distinguishing feature* of his invention. The gist of this new descriptive paragraph is contained in the words:

> This [fulminate] chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force. * * * To effect this the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer side of this fulminate *for two purposes;* one is, to diffuse the fire from this center most thoroughly; the other is, to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker, and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force, at once from beneath the

anvil plate, without any chamber or space for it to expand into under the plate.

At the same time the appellant struck out all his three original claims and substituted a single claim, as follows (Rec., 26):

> The construction and arrangement of the chamber of fulminate, anvil, plate, perforations, and case, with the central-constructed, filled chamber of fulminate powder in contact and between the base of the case and the circular anvil-plate, with central anvil-bar and two or more side perforations extending from the extreme sides of the chamber of fulminate into the base of the powder charge, whereby the smallest area of resistance is presented to the fulminate explosion, and the fire is diffused in the base of the charge of powder, and the greatest resistance is presented by the front face of the plate to the powder charge, consuming the powder and securing the plate as and by the means described.

The examiners rejected this claim as "vague, indefinite, and ambiguous," but held that the construction shown (shown, that is, in the specification and drawings) *as now understood* (i. e., as explained in the new paragraph of the specification) involved patentable novelty, so that a claim might be allowed, if specific and well defined. (Rec., 26.)

The appellant then further amended the amendment to his specification by inserting the reference to the solid head of the shell, and he substituted the following as the single claim for which a patent was asked:

> In the bottom of a solid metallic-flange cartridge case or shell, the combination of a circular base inclosing a central chamber of fulminate, and an anvil

over the fulminate provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described (Rec., 26–27.)

As so limited and defined the claim was allowed and the patent granted.

It is clear from this comparison of the original specification and claims with the amended specification and the claim ultimately allowed, that whether the appellant be entitled to a broad construction of his claim or not, the claim itself is a very narrow one. The claim is *not* for the circular plate E with solid anvil bar and perforations, applied within a solid-head cartridge shell (first rejected claim), *nor* is it for the plate E constructed as described, in combination with the circular disk D and the solid-head cartridge shell (second rejected claim), *nor* for a circular plate perforated into a central fulminate chamber, leaving a solid anvil bar over the fulminate chamber, within the solid-head cartridge shell (third rejected claim), *nor* for the construction and arrangement of the fulminate chamber, anvil-plate, perforations, and case, as described in the specification, so as to diffuse the fire in the base of the powder charge and consume the powder (first amended claim, rejected). These mechanical combinations are found in the appellant's cartridge, but they are not what constitute its novelty, nor are they covered by the patent. The patent is not granted for a claim for the combination in the bottom of a solid metallic-flanged cartridge case or shell of a circular base inclosing a central chamber of fulminate, and an anvil over the fulminate provided

with two or more openings. Such a claim would not have differed from those that were rejected. The one sole feature of the combination which entitled it to be patented was this, that the anvil plate E had "two or more openings whose *inner* edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge."

It was not until the appellant introduced into his specification the new paragraph stating that "The distinguishing feature of my invention is the organized construction. * * * In this organization the fulminate * * * is contracted into a * * * small central chamber and fills it. * * * This chamber at its side or outer extreme edges communicates directly and exclusively with the powder charge. * * * To effect this the central anvil pie e has no central aperture, is as wide as the fulminate-filled chamber, and *the perforations are at the extreme outer sides of this fulminate;*" that the examiners stated that the construction involved patentable novelty, and it was not until the appellant specifically described the combination which he sought to patent as containing the element of an anvil plate with openings placed *in a particular position* with regard to another element (i. e., "openings whose inner edges nearly coincide with the edges of the central chamber of fulminate") that any patent was granted. The court will presume that the examiners acted properly in refusing to allow a patent until the appellant had limited his claim to the particular combination finally described therein, but even if the examiners' views had been incorrect and their

action improper, even if they ought not to have refused the application with the claims as originally worded, the fact remains that the words "whose inner edges nearly coincide with the edges of the central chamber of fulminate," words describing the position of the openings in the anvil plate E, inserted in the claim, after the rejection, are the vital words of the patent, without which, or their equivalent, it would not have been granted, and that no form of cartridge construction to which these words are not applicable can possibly be regarded as covered by the patent. As was said in *Shepard* v. *Carrigan* (116 U. S., 593, 596):

> Where an applicant for a patent to cover a new combination is compelled by the rejection of his application by the Patent Office to narrow his claim by the introduction of a new element, he can not after the issue of his patent broaden his claim by dropping the element which he was compelled to include in order to secure his patent. (Citing *Leggett* v. *Avery*, 101 U. S., 256, and other cases.)

The description of the openings in the anvil plate as openings "whose inner edges nearly coincide with the edges of the central chamber of fulminate" is manifestly such a limitation as must prevent the claim from receiving a broad interpretation.

> In patents for combinations of mechanism, limitations and provisos imposed by the inventor, *especially such as were introduced into an application after it had been persistently rejected*, must be strictly construed against the inventor and in favor of the public, and looked upon as in the nature of disclaimers. (*Sargent* v. *Hall Safe and Lock Co.*, 114 U. S., 63, 86.)

In the reloading cartridge the whole of the vents are directly over the fulminate chamber, and their outer, not their inner, edges coincide with the edges of the latter. Hence this type of cartridge is clearly outside of the claim in patent No. 212313.

The patent in the light of its own language.

In point of fact, while a reference to the proceedings in the Patent Office is proper and useful, in that it shows, beyond question, that the patent was only granted after the claimant had so restricted his claim as to make the peculiar position of the vents an essential feature of his combination, yet such reference is not really necessary to the correct decision of this case. The language of the specification and the claim is clear enough, without reference to anything outside of them, and it demonstrates two essential differences between the patented cartridge and the reloading cartridge, viz:

(1) The difference in the shape and position of the vents.

(2) The difference in the priming.

The one feature of the Hubbell cartridge which distinguishes it from prior inside-primed cartridges is that the anvil plate has "two or more openings whose *inner* edges nearly coincide with the edges of the central chamber of fulminate." The specification states the purpose of this construction to be two-fold: First, to compel the diffusion of the "explosive force of the fulminate" "into the base of the powder charge," and, second, to leave a solid anvil over the fulminate to resist the blow of the striker. That part of the anvil in the reloading

cartridge which receives the blow of the striker is narrower than the corresponding part of the anvil in Hubbell's cartridge; but the chief difference between the two constructions is that in Hubbell's device only a very small portion of each vent is over the fulminate chamber, their "inner edges nearly coinciding with the edges" of that chamber, their outer parts being over the unperforated part of the disk D, while in the reloading cartridge the vents are wholly over the fulminate chamber, and do not lead directly to the powder chamber, as the Hubbell vents do, but lead to a channel cut across the upper face of the anvil, and by this to a hole in the base of the powder chamber. By this latter construction, while the resisting force of the anvil at its center is not diminished, the explosive force of the fulminate is compelled to enter the powder chamber in a central stream, instead of being compelled to diffuse itself as in the Hubbell device. This diffusion, which is impossible in the reloading cartridge, the appellant considered "the distinguishing feature" of his invention, as the importance attached to it in the specification shows.

Appellant's counsel may seek to belittle this essential difference in the construction of the vents by stating that the powder runs down through the hole in the base of the powder chamber and lies in the groove across the upper face of the anvil. The fact that a few loose grains of powder fall into the groove (or even drop through the notches on to the fulminate) does not affect the operation of the fulminate when exploded. Whatever powder drops through drops loosely, and is not rammed tightly down, as is the powder in the powder chamber. When the ful-

minate is exploded, its flame ignites these loose grains; but as the explosive force of the fulminate is vastly greater than that of a few loose grains of powder, it simply sweeps them along as they ignite, and it enters the powder chamber with practically the same force and in the same way as if these grains had not been in the groove at all. Their effect is too insignificant to be taken note of.

Another essential difference between the two types of cartridge is that the Government's cartridge is outside-primed, the appellant's inside-primed.

The appellant's specification says "open *only* at the front end B, to be primed and loaded at this front opening." So, too, the first claim in the original application for the patent expressly describes the metal case as being made "with cylinder and rear end solid and tight, thereby *requiring* the insertion of the plate and charge and priming from the front." (Rec., 25.) These descriptions make it clear that the cartridge covered by the appellant's patent was necessarily inside-primed, and could not be outside-primed, and hence that in the modification suggested, viz, "the fulminate chamber C may be recessed or formed in the metal of the circular plate E, with central bar *i*, and two side perforations, *k*, *k*, over it, dispensing with the paper," the chamber C is intended to be recessed from the upper side of the base of the cartridge and not from its lower side, as in the Government cartridge. The same intention is manifest from the rest of the specification, for there being no provision for closing the hole that would be left in the base of the cartridge if the fulminate chamber were recessed from the outside, it is clear that such a modification would be inoperative.

The words, "in the bottom," in the claim of the patent, must therefore be understood as limiting the claim to an inside-primed cartridge, while the primer of the Government cartridge "is not in the bottom of the shell" in the sense in which the primer of the appellant's cartridge is, but is in an outside pocket. (Rec., 19.) That this distinction is a substantial one becomes evident when it is reflected that one of the objects for which the Government cartridge is made is that it should be capable of being reloaded. With an outside-primed cartridge, the cup which holds the fulminate is used but once, but the cartridge shell itself is not injured by the blow of the hammer, whereas the base of an inside-primed cartridge is indented by the blow, and must be flattened out before it can be reloaded, while, as this part of the base is very thin, it evidently can not stand many blows. For reloading purposes an outside-primed cartridge is manifestly superior.

The appellant's cartridge must be crimped in order to hold the anvil and the disk D in place, whereas no such crimping is required in the Government cartridge. This is also a substantial difference between the two, because the appellant's cartridge would have to be straightened out and recrimped every time it was reloaded, a fact which would not only make the reloading process much more difficult than with the Government cartridge, but which would also render reloading more than once or twice impossible, owing to the weakening of the metal. The retention of the anvil and disk in the appellant's cartridge by crimping, or some equivalent means, being therefore

indispensable, the words in the claim, "substantially as described," must be understood as including in the claim substantially the method of holding the anvil and disk in place when the cartridge is fired described in the specification, a method which has no equivalent in the Government cartridge.

In this connection it should be remembered that all but a very small feature of the reloading cartridge, as used by the Government, antedates the appellant's application for his patent. The shell of the reloading cartridge existed before 1873 and is shown on Plate LIX of Ordnance Memoranda No. 14, a publication of the War Department, of which the court will presumably take judicial notice. All that distinguishes what is there shown from the reloading cartridge as used by the Government is the primer. The court below has found as a fact that "any one of several different kinds of primers may be used" with the reloading shell (Rec., 19), and it is clear that whatever types of primers were used before 1879 could not have greatly differed from that subsequently used. Certainly the reloading shell, with those primers, constituted a cartridge which had a central chamber of fulminate and also vents over the same, and there must have been enough metal between those vents to constitute "an anvil over the fulminate," as otherwise the cartridge would have been useless, which was not the case. If, therefore, the appellant's patent could be so stretched as to cover the reloading cartridge with the form of primer used in 1879 and subsequently, the patent would have been itself anticipated by the earlier types of reloading cartridge.

The caveat and rejected applications do not help the appellant's case.

It may possibly be contended that the appellant's caveat of 1865 and certain rejected applications for patents for cartridges, all of which are referred to on pp. 12–16 of the record, showed that the appellant had invented, prior to the date of the application for patent No. 212313, a type of cartridge substantially the same as the reloading cartridge, or at least that he had invented a "system" which reached perfection in his patented cartridge. It is submitted that even if this contention were correct it would be wholly irrelevant, because the issue as between the reloading cartridge and that covered by patent No. 212313 is simply whether the two are the same. Unless the reloading cartridge is covered by patent No. 212313, the Government has a right to use the former without regard to who may have invented it.

There is, however, nothing in the record to warrant the contention. In regard to the caveat of April 13, 1865, the court below has found that "no method of communication from the fulminate to the powder was provided, nor any mention made of an anvil." This being so, the caveat can not from any point of view have any bearing on the case whatever.

The application of April 13, 1865, was for a center fire cartridge with hollow flange, the interior of the flange holding the rim of a perforated anvil plate. Not only was this device manifestly different from that shown in the patent No. 212313, but as the application for a patent for the former was rejected, the record fails to indi-

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cate to what extent, if at all, it contained any feature that was a patentable novelty in 1865.

The application of April 25, 1872, was for a cartridge with "a circular metallic anvil, perforated and secured by a bite of the case of the same metal immediately in front of the fulminate." This type of cartridge undoubtedly resembles that for which patent No. 212313 was granted, but the vents or openings through the anvil disk are not confined to any particular position, as they are in the latter type of cartridge. Presumably, it was this failure to indicate the position of the vents which rendered the claim too broad, and necessitated its rejection.

It is to be observed that the petition in the present case alleges that the appellant's successive applications were all for substantially the same invention; but an examination of the applications shows directly the contrary of this, namely, that the rejected applications were all for much broader claims than that allowed in 1879, so that it is clear that the action of the Patent Office has been thoroughly consistent all along.

THE DAMAGES CLAIMED.

In view of what has been said above, it seems superfluous to point out that there was no implied contract in the present case, or to dwell on the fact that no judgment could be based on the manufacture of 9,373,700 primers referred to on page 20 of the record. The record states that they "were manufactured *from* 1883," i. e., after this suit was begun. Moreover, even if the reloading cartridge as a whole was covered by the appellant's patent,

its primer by itself (i. e., the Gill patent anvil and a small cup containing fulminate) was not, for the appellant's patent is for "an organized cartridge." Until the primer was affixed to a cartridge, nothing existed which came within the patent, and there is no *evidence* that any of the 9,373,700 primers referred to were ever so affixed. Besides, the royalty of $1.50 per thousand was computed on the cost of *new* cartridges (5 per cent on $30 per thousand), whereas if an old cartridge is reloaded the cost of the shell must be deducted, and there is no evidence as to this.

For the reasons stated in the previous portion of this brief, it is submitted that the judgment of the court below should be affirmed.

CHARLES C. BINNEY,
Special Attorney.

L. A. PRADT,
Assistant Attorney-General.

ADDENDUM.

Since the above was written counsel for the United States have been allowed to see proof sheets of a portion of the appellant's brief. According to these proof sheets, that brief is prepared on the theory that the court will certainly grant the appellant's motion, presented January 8, 1900, for a reargument of case No. 198, of October term, 1897, such reargument to take place along with the argument of the present case. This assumption of what the court will do, as if it were a foregone conclusion—a

matter "cut and dried"—seems hardly consistent with the respect which is due to this court.

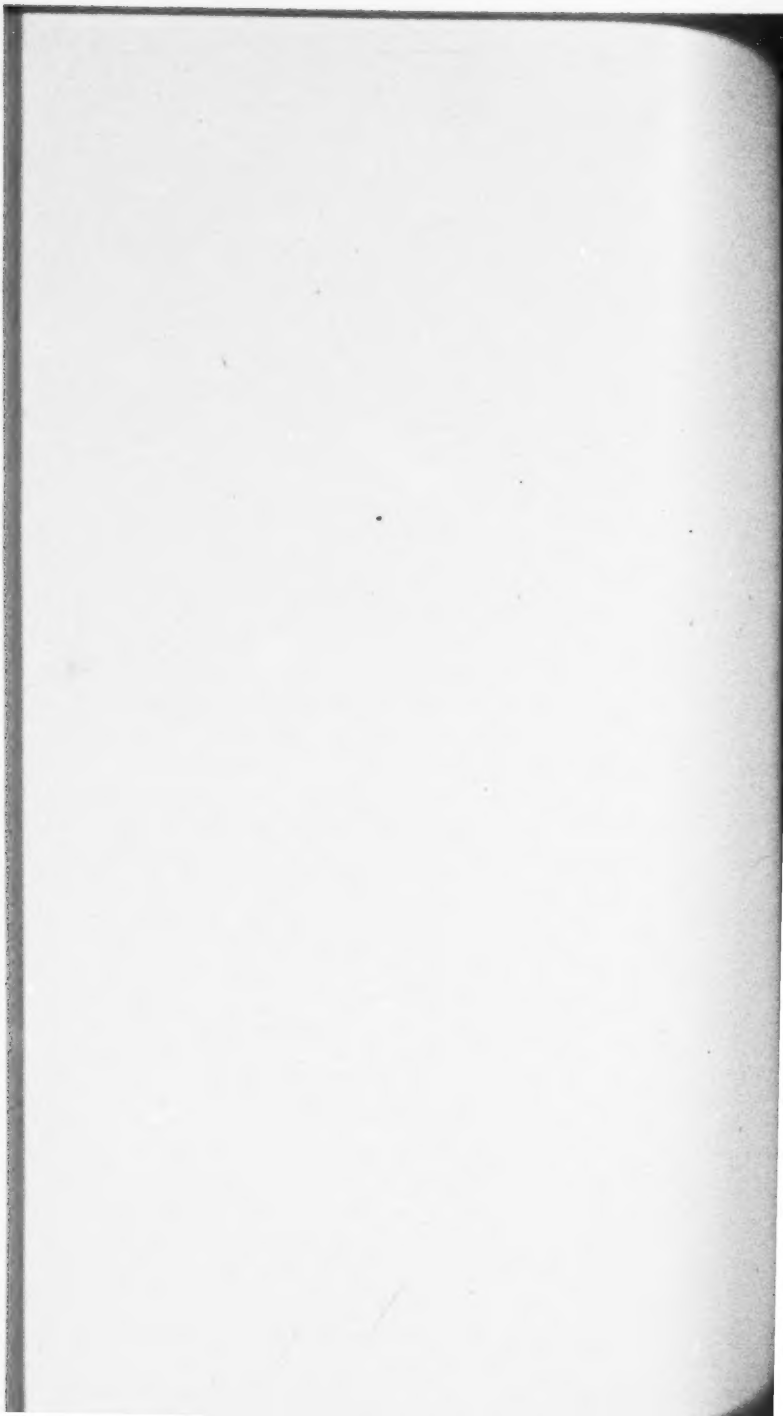
As to the assertion that the court below *and the attorneys for the respective parties* seem to have regarded case No. 16261 (in which judgment was affirmed by this court May 31, 1898) as consolidated with the present case, the counsel for the United States deny most emphatically that there is the slightest warrant for such an assertion, except possibly as to what may have been in the mind of the appellant's counsel; and, to judge by their actions, nothing of the sort ever was in their mind until now.

In pursuance of the assumption, referred to above, as to the court's action on the motion just made, the appellant's brief refers to matter which is not in the record of the present case, and also to a part of a deposition taken in the other case. This deposition could not be referred to even on the argument of the appeal in the other case, since the rules of this court regulating appeals from the Court of Claims do not permit any of the testimony to be included in the record, not even depositions of experts in patent cases. The introduction of all matter outside the record is strenuously objected to.

The appellant's brief states repeatedly that in his cartridge the inner edges of the vents "are nearly coincident with the fulminate," and that the construction of the reloading cartridge is the same in this particular. It is hard to see what these words (which are not in the patent) mean, unless it is that these edges are over the fulminate chamber, which is true, and unless some part at least of the vents were over that chamber there could be

no ventage at all. What the patent requires, however, is that the inner edges of the vents should "nearly coincide with THE EDGES of the central chamber of fulminate," a construction not found in the reloading cartridge. That it is not so found constitutes a vital difference between the two types of cartridge. It is too late now to change the language of the patent, especially in the very point which distinguished it from prior inventions and made it possible for the appellant to receive a patent at all.

CHARLES C. BINNEY,
Special Attorney.



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No. 96 (and 198 of 1897)

Sy. of Atty. Gen. (Brief)

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In the Supreme Court of the United States.

OCTOBER TERM, 1899,

WILLIAM WHEELER HUBBELL, appellant; v. THE UNITED STATES; } No. 96.

AND

OCTOBER TERM, 1897,

WILLIAM WHEELER HUBBELL, v. SAME. } No. 198.

APPELLEE'S BRIEF ON APPELLANT'S MOTION TO RESTORE CASE NO. 198 OF OCTOBER TERM, 1897, TO THE DOCKET, AND FOR LEAVE TO ARGUE SAME IN CONNECTION WITH NO. 96 OF THE PRESENT TERM.

CHARLES C. BINNEY,
Special Attorney.

L. A. PRADT,
Assistant Attorney-General.

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APPELLEE'S BRIEF OF APPELLANT'S MOTION TO RESTORE CASE NO. 198 OF OCTOBER TERM, 1897, TO THE DOCKET, AND FOR LEAVE TO ARGUE SAME IN CONNECTION WITH NO. 96 OF THE PRESENT TERM.

This motion is, in fact, a motion for a reargument of the case of *Hubbell* v. *United States*, fully argued before this court on April 13 and 14, 1898, decided without dissent May 31, 1898 (affirming the judgment of the court below), and reported in 171 U. S., 203.

When, shortly after the decision of the case, a motion for a rehearing was filed, it was not thought necessary to

oppose the motion by a printed brief; but in view of the rather unusual circumstance that the appellant has not seen fit to await the pleasure of the court upon his prior motion, but has now renewed it on the very day on which another case between the same parties is on the calendar for argument, and has further requested that the reargument take place as a part of the argument of that other case, the following brief has been prepared.

In considering this motion it is necessary to bear in mind the following facts and dates:

1883, April 19. Petition filed in case No. 13793, Court of Claims, the appellant's first case.

1885, June 1. Judgment entered by the Court of Claims, after trial, dismissing petition in said first case.

August 21. Application for appeal from said judgment filed.

1888, June 11. Petition filed in case No. 16261, Court of Claims, the appellant's second case (involving *the same issues* as the first case, but relating to facts occurring after that case had been begun).

1895, December 23. Judgment entered by Court of Claims, after trial, dismissing petition in said second case.

1896, March 20. Application for appeal from said judgment (in second case) filed.

July 6. Appeal (in second case) allowed on appellant's motion.

1898, April 13, 14. Appeal (in second case) argued. (No. 198, October term, 1897.)

May 31. Judgment (in second case) affirmed, and appeal dismissed.

June 7. Appeal (in first case) allowed on appellant's motion. (This appeal is now No. 96, October term, 1899.)

In consequence of the appellant's extraordinary delay (from August 21, 1885, to June 7, 1897) to perfect his appeal from the judgment in his first case, it has come about that an appeal from a judgment rendered June 1, 1885, is only now reached on the calendar, although an appeal from a judgment (on a state of facts presenting the same issues) rendered December 23, 1895, was argued in April, 1898, and dismissed May 31, 1898.

The reasons assigned for the present motion appear to be as follows:

(1) That the fact that the court below allowed an argument on a motion to amend the findings in the first case (No. 13793) to be made, along with an argument on a motion for a new trial and amendment of findings in the second case (No. 16261), shows that that court did not consider its judgment in the first case as rendering the issues raised in the second case *res judicata*.

(2) That the decision of this court, rendered May 31, 1898, upon the appeal from the judgment in the second case, may perhaps have been induced by the court's being misled by the form in which the transcript of the record on appeal had been prepared.

(3) That the appeal from the judgment in the first case having been perfected on June 7, 1898, vacated that judgment, so that it can not now avail to make good a plea or argument of *res judicata*.

These reasons will be considered in their order.

(1.)

The effect of the argument, in the court below, on the motion to amend findings.

The judgment in the first case was rendered June 1, 1885, and on August 14, 1885, the appellant moved for a new trial, and also, in the alternative, for an amendment of findings. On December 14, 1885, the motion for a new trial was overruled, but the motion for amendment of findings was allowed to stand until the defendant should be heard in opposition to it. By the practice of the Court of Claims, a motion, unless overruled at chambers when first presented, remains on the calendar until the party who made it asks to have it heard and finally disposed of. The appellant filed amendments of his motion from time to time, but never brought it up for a hearing until 1896, over ten years after it had been made, and after a judgment had been rendered against him in his second case. Some time before this motion was heard, and before the trial in the second case, certain portions of the record in the first case, previously unprinted, were allowed to be printed. The motion to print was entitled in both cases, but the matter covered by the motion was all in the record in the first case, and was used in the second case by agreement.

When the appellant, after judgment had been rendered against him in the second case, finally brought his motion for an amendment of findings in the first case to a hearing, it was heard along with motions for a new trial, and (in the alternative) amendment of findings, in the second case, at which hearing evidence taken in the second case

was allowed to be read. The motion in the first case was overruled, as was also the motion for a new trial in the second case, but the alternative motion for an amendment of findings in that case was allowed, the additional findings being, in the opinion of the court, "in substance not different from those heretofore filed," and not affecting "the result heretofore reached herein." (Rec. in case 198, Oct. term, 1897, p. 21.)

The appellant's brief on the present motion (p. 5) says:

> The result of such action [was] to include within the record in that case [the case heard by this court in 1898, and as to which this motion is now made] all findings of fact which were applicable to both cases, thus in effect combining the two cases for the purposes of an appeal, and presenting in a single record each and every question which could have been raised in this court upon appeal in either case.
>
> The practical effect of the court's action in this regard was to treat case No. 16261 as an amendment of or addition to case No. 13793, and it is apparent from the action of the court taken on the motion last above set forth that the court did not consider its judgment in case No. 13793, which must have been specifically brought to its attention in course of considering the matters growing out of that motion, as operating to render the controversy in case No. 16261 *res judicata*.

It is submitted that these conclusions are wholly unwarranted by the facts. It is true that the record in the second case (before this court in 1898) presented every question which could have been raised in this court on appeal in the first case, but this fact did not render the doctrine of *res judicata* any the less applicable. On the

contrary, it was precisely because the doctrine of *res judicata* applied that it was necessary to present in the record of the second case every question which could have been raised in this court upon appeal in the first case. The defense of *res judicata* can only be maintained upon an issue identical with that previously adjudicated, and when the question comes before an appellate court "each and every question which could have been raised" in that court upon appeal from the earlier judgment must be presented by the record of the appeal from the later judgment, in order to enable the court to properly decide as to the identity of the issues in the two cases.

As a matter of fact, the court could have made this decision perfectly well on the appeal heard in April, 1898, without the additional findings of fact. The court below expressly stated that "these findings, being in substance not different from those heretofore filed, do not, in the opinion of the court, affect the result heretofore reached herein;" and this court's affirmance of the judgment necessarily involves an affirmance of the opinion of the court below on this particular point, for if the new findings had affected "the result heretofore reached herein," the judgment would have been reversed. The fact that the additional findings were superfluous can not, therefore, in any way weaken the legal foundation of the judgment rendered in the case in which they were made.

Moreover, while the record on the appeal heard in April, 1898, presented (and would have presented even if the additional findings had not been made) in a single record every issue which could have been raised in this

court upon appeal in either case, this was not at all the same as "in effect combining the two cases for the purposes of an appeal," as appellant's counsel contends. The issues raised in the first case were fully before this court, and necessarily so, in order to enable it to determine whether they were also raised in the second case, but the *judgment* in the first case was not before this court for review, as no appeal from it had yet been perfected.

In no sense, therefore, can the practical effect of the action of the court below in making additional findings in the second case (No. 16261) be regarded as treating that case "as an amendment of, or addition to, case No. 13793," nor as any indication whatever that the court below "did not consider its judgment in case No. 13793 * * * as operating to render the controversy in case No. 16261 *res judicata*." The appellant's contention, if sound, would prevent the doctrine of *res judicata* from ever being applied by an appellate court. By this contention, as soon as the record in the case involving *res judicata* is properly made up (i. e., so as properly to present the issue previously adjudicated and enable the appellate court to decide as to its identity with the issue in the new case), then the court below must be held as having (by so making up the record as to present the question of *res judicata*) annulled its own decision sustaining the defense of *res judicata;* and, more than this, it must be held to have treated the second case as an amendment of the first, so as to bring its judgment in the first case before the appellate court for

review, even when no appeal from that judgment has been taken. If the appellant's contention means anything, it means this, which is, it is submitted, a palpable absurdity.

Now what the court below did was this. It entered a judgment in the first case, and overruled a motion for a new trial. It consented that evidence taken in a second case between the same parties might be read on the hearing of a motion to amend findings in the first case, and also allowed a part of the record in the first case not previously printed (but just as much before the court at the trial of that case as if it had been printed) to be printed for use in the hearing of that motion, as well as the trial of the second case. It entered a judgment in the second case on the ground of *res judicata*, repeating, necessarily, the findings in the first case, in order to show the identity of issues. It overruled the motion for amendment of findings in the first case. It added new findings in the second case, not differing in substance from those previously made in both cases. By so doing, it is contended, it destroyed the finality of its own judgment in the first case. Can this contention be seriously made? Can a court destroy the finality of a judgment by permitting any amount of evidence to be printed in support of motions to amend findings, or by hearing any number of motions to amend findings, or by doing anything whatever in another case between the same parties, or, in short, by anything else than direct vacation of the judgment?

(2.)

The effect of the form of the transcript of record.

The second reason for the present motion is still more extraordinary than the first. It is that "the form in which the transcript of the record on appeal (in case 198, October term, 1897) was prepared" may have misled this court, and thereby induced its conclusion that the doctrine of *res judicata* applied. This reason scarcely comports with a becoming respect for the intelligence of the court. The printed transcript had not, it is true, all the usual neatness of arrangement of transcripts in this court; but this was because the appellant refused to have it all printed at one time in the ordinary way, and insisted on inserting matter printed for the court below, and Patent Office copies of patents, so as to save himself a few dollars. Had the record been really unintelligible on this account, the fault would have been his own for interfering with the established system in regard to printing; but it is submitted that, defective as the record may be in neatness of finish, no lawer of ordinary intelligence, to say nothing of the honorable judges of this court, could have been "misled" by it in any way whatever.

The error into which, appellant contends, the court may have fallen by being misled by the form of the transcript, is that of concluding "that the prior judgment in case No. 13793, which was being held in abeyance by the Court of Claims, pending the disposition of the appeal in the former case, did operate to bar a recovery in the latter suit," the suit then before this court on appeal. The words "the former case" are a trifle ambiguous, but

seem to refer to the appeal in the first case, an appeal applied for in 1885, but not perfected until 1898, after the hearing of the appeal to this court in the second case. The most remarkable statement, though, is that the judgment in the first case "was being held in abeyance by the Court of Claims." How can a court hold a judgment "in abeyance?" Possibly by opening it (as distinguished from vacating it), but this judgment was never opened, nor was its finality in any way disturbed by the Court of Claims. The appellant had applied for an appeal, and had delayed for more than twelve years to perfect that appeal, but this delay of his (which in any other court would have been laches) certainly could not keep the judgment "in abeyance." The court below had done nothing whatever to hold that judgment "in abeyance," and it remained final for all purposes, subject only to the possibility of its being reversed by this court whenever the appeal should be perfected.

(3.)

The effect of perfecting the appeal in case No. 13793.

The third reason advanced in support of the present motion is, it is submitted, without foundation in law. It is that the perfecting of the appeal in case No. 13793, on June 7, 1898, vacated the judgment entered in that case on June 1, 1885, so that even if the judgment in case No. 16261 was rightly based on *res judicata* on December 23, 1895, and the latter judgment rightly affirmed by this court on May 31, 1898, this latter judgment and its affirmance by this court must now be held as of no avail on account of the *subsequent* perfecting of an appeal from

the original judgment. While this is not stated in so many words, it is evidently what is meant by the words, "a vacated judgment can not avail to make good a plea or argument of *res judicata*," these words being used in support of a motion like the present one.

In the first place, a perfected appeal from a judgment does *not* lessen its finality or prevent its operating as *res judicata* until the judgment is reversed, except in States were the contrary is provided by statute. In some States, like Iowa, a statute provides expressly that an appeal shall not affect the finality of a judgment, while in some other States the statutes are to the contrary effect. Where there are no statutes on the subject, the general rule, it is submitted, is that in the case of appeals which merely bring up the record, and do not provide for a retrial of the case (as appeals from a justice's court) the taking of an appeal does not lessen the finality of a judgment as far as concerns its effect as *res judicata*. Many instances of the application of this rule, both with and without the aid of a statute, can be cited. (*Cloud* v. *Wiley*, 29 Ark., 80; *Bank* v. *Wheeler*, 28 Conn., 433; *Allen* v. *Mayor*, 9 Ga., 286; *Moore* v. *Williams*, 132 Ill., 589; *People* v. *Richert*, 159 id., 496; *Nill* v. *Comparet*, 16 Ind., 107; *Burton* v. *Reeds*, 20 id., 87; *Burton* v. *Burton*, 28 id., 342; *Randles* v. *Randles*, 67 id., 434; *Mull* v. *McKnight*, id., 527; *State* v. *Krug*, 94 id., 366; *Line* v. *State*, 131 id., 468; *Willard* v. *Ostrander*, 51 Kans., 481; *Faber* v. *Hovey*, 117 Mass., 108; *Creighton* v. *Keith*, 50 Nebr., 810; *Suydam* v. *Hoyt*, 25 N. J. L., 230; *Parkhurst* v. *Berdell*, 110 N. Y., 386; *Sage* v. *Harpending*, 49 Barb. (N. Y.), 166; *Stevens* v.

Stevens, 76 Supr. Ct. N. Y., 332; *Paine* v. *Schenectady Ins. Co.*, 11 R. I., 411; *Thompson* v. *Griffin*, 69 Tex., 139; *Westmoreland* v. *Richardson*, 2 Tex., Civ. App., 175; and see *Burgess* v. *Hill*, 21 Mo. App., 313.)

Moreover, even if the law were otherwise, and the perfecting of an appeal prevented a judgment from operating as *res judicata*, it could not do so retroactively, so as to impair a judgment based on the effect, as *res judicata*, of another judgment not appealed from at the time the second judgment was rendered. Even the reversal of a judgment has no such retroactive effect.

> If the judgment roll was competent evidence when received, its reception was not rendered erroneous by the *subsequent* reversal of the judgment. Notwithstanding its reversal, it continued to have the same effect to which it was entitled when received in evidence. (*Parkhurst* v. *Berdell*, 110 N. Y., 386.)

If the reversal of a judgment by an appellate court has no retroactive effect upon cases where the judgment has already operated as *res judicata*, *a fortiori* the mere perfecting of an appeal by a party to a suit can have no such effect.

It is therefore submitted that the appellant's motion should be denied, and that the motion for a rehearing, filed in June, 1898, in case No. 198 of October term, 1897, should also be denied.

CHARLES C. BINNEY,
Special Attorney.

L. A. PRADT,
Assistant Attorney-General.

Supreme Court of the United States.

No. 19—October Term, 1900.

William W. Hubbell, Appellant, vs. The United States. } Appeal from the Court of Claims.

[October 22, 1900.]

On December 28, 1878, William Wheeler Hubbell filed, in the United States Patent Office, an application for a patent for an improvement in metallic cartridges, and on February 18, 1879, letters patent No. 212,313 were granted and issued to him.

On April 19, 1883, Hubbell, the patentee, filed a petition in the Court of Claims against the United States, alleging that the latter were using his patented methods in circumstances that warranted a claim for compensation. This case was numbered in the Court of Claims as No. 13,793, and was so proceeded in that on June 1, 1885, judgment was entered in the Court of Claims dismissing the petition. (20 C. Cl. 352.) In August, 1885, an application for allowance of an appeal from that judgment to this court was filed. Pending this application Hubbell brought another suit against the United States in the Court of Claims by filing a petition, No. 16,261, on June 11, 1888, presenting substantially similar issues to those asserted in the first suit.

On December 23, 1895, judgment was entered by the Court of Claims dismissing the petition in the second case. (31 C. Cl. 454.) On March 20, 1896, an application for allowance of an appeal from this judgment to this court was filed, and on July 6, 1896, this appeal was allowed. On May 31, 1898, the judgment of the Court of Claims, dismissing the petition in the second case, was approved by this court. (171 U. S. 203.)

On June 7, 1898, the application for allowance of appeal in the first case was allowed, and on May 31, 1898, a petition was allowed to be filed in this court for a rehearing in the second case. The appeal in the first case and the petition for a rehearing in the second case were argued together in this court on January 9, 1900.

Mr. Justice Shiras delivered the opinion of the Court.

It is contended, on behalf of the appellant, that we should regard the present case and the case disposed of upon the former appeal, in No. 171 U. S. 203, as constituting substantially one controversy, and that we should

give the appellant the benefit of the new or additional facts which, it is claimed, were made to appear by the amended findings in the first case. It is claimed, on the part of the United States, that the former decision of this court was a final adjudication of the controversy, that its finality was not affected by the subsequent allowance by the trial court of an appeal from the former judgment, and that, at all events, the additional findings were, in substance, not different from those previously made, and, even if now considered, show no sufficient grounds for reversing the judgment of the Court of Claims in the present case, or that of this court on the first appeal.

Whether if the additional findings of the trial court had presented a new and meritorious case, this would afford a sufficient reason for this court to set aside its previous judgment, and to enter upon a consideration of the controversy *de novo*, we do not decide, as, even upon such an assumption, we agree with the court below in thinking that the new findings did not make a new or different case, or impair the legal foundation of the judgment rendered in the case in which they were made.

Those findings, as we find them printed in the record of the case at No. 198 of the October term 1897, of this court, consist partly of matters connected with the claim on account of the manufacture and use of the cup-anvil cartridge, and as the claimant filed a waiver of that claim such parts of the findings have no relevancy now. Other portions of the additional findings bear on the number of cartridges made by the United States, so as to afford a basis for estimating the damages, if the claimant should recover, and do not affect the legal questions involved. Other of the findings allowed reference to certain drawings filed by the claimant in previous applications made by him in the Patent Office, which may have some relevancy as disclosing the history of the art, but do not appear to materially affect the construction of the claim finally allowed by the Patent Office, and the same may be said of some verbal amendments allowed to the findings previously made.

An examination of the history of the appellant's claim, as disclosed in the file wrapper and contents, shows that in order to get his patent he was compelled to accept one with a narrower claim than that contained in his original application; and it is well settled that the claim as allowed must be read and interpreted with reference to the rejected claim and to the prior state of the art, and cannot be so construed as to cover either what was rejected by the Patent Office or disclosed by prior devices. (*Leggett* v. *Avery*, 101 U. S. 256; *Sheppard* v. *Carrigan*, 116 U. S. 593; *Knapp* v. *Morse*, 150 U. S. 227.)

It is quite true that, where the differences between the claim as made and as allowed consist of mere changes of expression, having substantially the same meaning, such changes, made to meet the views of the examiners,

ought not to be permitted to defeat a meritorious claimant. While not allowed to revive a rejected claim, by a broad construction of the claim allowed, yet the patentee is entitled to a fair construction of the terms of his claim as actually granted. The specification, as amended, contained the following description:

"The distinguishing feature of my invention is the organized construction to carry into complete effect the expressed principles of operation of the fulminate of mercury or detonating powder and the powder charge. In this organization the fulminate, although the superior explosive force, is contracted into a diminished or small central chamber, and fills it. The flange and head of the metallic case are solid, all in one piece. This chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force, not in a central stream, but in a diffused body into the base of the powder charge. To effect this, the central anvil piece has no central aperture, is as wide as the fulminate-filled chamber, and the perforations are at the extreme outer sides of this fulminate, for two purposes: one is to diffuse the fire from this center most thoroughly; the other is to have an unperforated anvil over and against the fulminate, as it rests solid in its chamber, to receive the central blow of a striker and obtain complete resistance by the anvil bar, and yet have free escapement for the explosive force at once from beneath the anvil plate without any chamber or space for it to expand into under the plate. This assures a certain ignition, security of the anvil plate to keep its position, and a complete combustion of the powder charge, from the base forward, as it impels the bullet out of the gun."

The claims made in the application were as follows:

"1st. The circular plate E, constructed with central solid resisting piece *i*, and two or more side perforations *k k*, substantially as described, applied within a metal case, with cylinder and rear end solid and tight, thereby requiring the insertion of the plate and charge and priming from the front, igniting the charge and remaining firetight in firing as described.

"2d. The circular plate E, constructed as described, in combination with the circular disc D, and metal solid firetight case A, substantially as shown and described.

"3d. A circular metallic tight-fitting plate, perforated into a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid firetight metal case, substantially as set forth."

The examiners rejected these claims on reference to prior patents. Thereupon the claimant, having amended his specification as above, substituted for the three claims above copied the following:

"What I claim as new and desire to secure by letters patent is—

"The construction and arrangement of the chamber of fulminate, anvil, plate, perforations and case, with the central constructed filled chamber of fulminate powder in contact and between the base of the case and the circular anvil plate, with central anvil bar and two or more side perforations, extending from the extreme sides of the chamber of fulminate into

the base of the powder charge, whereby the smallest area of resistance is presented to the fulminate explosion, and the fire is diffused in the base of the charge of powder, and the greatest resistance is presented by the front face of the plate to the powder charge, consuming the powder and securing the plate as and by the means described."

The examiners held that the construction described in the amended specification involved patentable novelty, and that a specific and well defined claim might be allowed, but not the amended claim, it being "vague, indefinite and ambiguous." The claimant thereupon withdrew the above amended claim, and substituted another, which was finally allowed, in the following terms:

"What I claim as new and desire to secure by letters patent is—

"In the bottom of a solid metallic flange cartridge case or shell the combination of a circular base inclosing a central chamber of fulminate provided with two or more openings, whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge, substantially as described."

It is obvious that this is a claim for a combination, none of the elements or constituent parts of which is claimed to be new, but whose merit consists in such an adjustment and relation of the parts as to produce the desired effect.

"In such a claim, if the patentee specifies any element as entering into the combination, either directly by the language of the claim, or by such reference to the descriptive part of the specification as carries such element into the claim, he makes such element material to the combination, and the court cannot declare it to be immaterial. It is his to make his own claim and his privilege to restrict it. If it be a claim to a combination, and be restricted to specified elements, all must be regarded as material, leaving open only the question whether an omitted part is supplied by an equivalent device or instrumentality." (*Fay* v. *Cordesman*, 109 U. S. 408.)

"In patents for combinations of mechanism, limitations and provisoes imposed by the inventor, especially such as were introduced into an application after it had been persistently rejected, must be strictly construed against the inventor and in favor of the public, and looked upon in the nature of disclaimers." (*Sargeant* v. *Hall Safe & Lock Co.*, 114 U. S. 63.)

"If an applicant, in order to get his patent, accepts one with a narrower claim than that contained in his original application, he is bound by it. If dissatisfied with the decision rejecting his application, he should pursue his remedy by appeal." (*Shepard* v. *Carrigan*, 116 U. S. 593.)

When the rejected claims and the one finally allowed are compared, it will be perceived that they all describe the combination as consisting of a circular base, containing a central chamber of fulminate, the anvil over it, with two or more perforations to permit the fire or explosive force of the fulminate to be communicated to the powder charge. What, then, was the difference or modification which resulted in the allowance of a claim? We agree with the court below in finding that difference in the position of

the apertures or vents. The examiners refused to allow the claim until the claimant distinctly located the vents as "openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge," thereby making the relative position of the vents and the walls of the fulminate chamber a material part of the claimant's patent. Breech-loading metallic cartridges were not new, and it was the opinion of the examiners that, in merely claiming "a circular metallic tight-fitting plate perforated with a central fulminate chamber, leaving a central solid or unperforated bar over the fulminate chamber, within a solid firetight metal case," the claimant was anticipated by the patents of Moffat, 53,168, March 13, 1866; of Tibbals, 90,607, May 25, 1869, and by an English patent, 2906, 1865. It was not until the claimant specifically claimed, as part of his combination, "an anvil over the fulminate provided with two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate in the base of the cartridge," that the patent was allowed. Whether the examiners were right or wrong in so holding we are not to inquire, as the claimant did not appeal, but amended his claim and accepted a grant thereof; thereby putting himself within the range of the authorities which hold that if the claim to a combination be restricted to specified elements, all must be regarded as material, and that limitations imposed by the inventor, especially such as were introduced into an application after it had been persistently rejected, must be strictly construed against the inventor and in favor of the public, and looked upon as in the nature of disclaimers.

"It may be observed that the courts of this country cannot always indulge the same latitude which is exercised by English judges in determining what parts of a machine are or are not material. Our law requires the patentee to specify particularly what he claims to be new, and if he claims a combination of certain elements or parts, we cannot declare that any one of these elements is immaterial. The patentee makes them all material by the restricted form of his claim." (Per Mr. Justice Bradley in *Water Meter Company* v. *Desper*, 101 U. S. 332, 337; *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U. S. 425, 429.)

With these principles of construction in view, we are constrained to concur with the court below in holding that the cartridges made and used by the Government were not within the description contained in the appellant's claim.

The Government cartridges alleged to be within the appellant's patent are of two kinds, one called the "cup-anvil cartridge," the other the "reloading cartridge." As the appellant has withdrawn his claim for infringement of the former, we have only to do with the latter or reloading cartridge. It is thus described in the sixth finding of the court below:

"This cartridge is a hollow metallic shell, rimmed around the base with a pocket in the exterior of the center of the base; through the center of the top of this pocket, supposing the cartridge to be stood upon its base or closed

end, is pierced a single aperture or hole to carry the fulminate flame to the black powder chamber. This cartridge contains only the black powder and the bullet. Any one of the several kinds of primers may be used in it. The one used by the United States and alleged to infringe claimant's rights is a circular metallic cup, into which is put the fulminate; above this is fastened a disk or cover having a groove on its upper side, being the diameter of the circle; at each end of this groove a small piece or notch is cut out of it; through the holes thus formed the flame from the fulminate escapes; if this primer is placed in the chamber of the reloading cartridge, with the closed end of the cup outwards and the grooved end against the top of the chamber, the flame from the fulminate when exploded would pass through these holes or notches, thence along the groove to the central aperture in the cartridge case or shell, thence to the black powder chamber through this single aperture. The entire area of each of the holes or notches in the disk is over the fulminate chamber, and the portion of the disk between the holes is the anvil."

This finding is claimed by the appellant to be incorrect in several respects, and particularly in its statement that "the portion of the disk between the holes is the anvil."

But even if we were permitted as an appellate court to depart from the findings of fact made by the trial court, we do not perceive that the particulars in which this finding is objected to really affect the case as presented to us. Even if we were to adopt the description of the Government's cartridge given by the appellant, it still appears that there is an essential difference between the two types of cartridge. Without accepting or rejecting the Government's contention that the Government's cartridge is outside primed and the appellant's inside primed, and wherein it is claimed that for reloading purposes an outside primed cartridge is superior, it is sufficient to say that the difference in the shape and position of the vents, whereby the explosive force of the fulminate is communicated to the powder charge, is obvious.

The distinguishing feature of the appellant's cartridge is that the anvil plate has two or more openings whose inner edges nearly coincide with the edges of the central chamber of fulminate; but in the reloading cartridge of the Government the vents are wholly over the fulminate chamber, do not lead directly to the powder chamber, but lead to a channel cut across the upper face of the anvil, and by this to a hole in the base of the powder chamber.

By this latter construction the explosive force of the fulminate enters the powder chamber in a central stream. But the appellant specifies, as a distinguishing feature, that the fulminate "chamber at its sides or outer extreme edges communicates directly and exclusively with the powder charge, so that the explosive force of the fulminate is not allowed to expand under a larger area of the anvil plate and blow it out, but is compelled to diffuse its explosive force, not in a central stream, but in a diffused body into the base of the powder charge."

It may be, as the appellant contends, that his method of communicating the explosive force of the fulminate to the powder charge is an improvement on previous methods, and is superior in efficacy to that used in the Government's cartridges; but our inquiry is not as to the merits of the patent in suit, but is confined to the question whether it covers, in legal contemplation, the defendant's cartridge.

Some contention is made, in argument, that because it is stated that some grains of powder may and do fall down through the base of the defendant's powder chamber, and lie loosely in the groove across the upper face of the anvil, therefore it must be concluded that such loose grains of powder come directly in contact with the flame of the fulminate before the latter enters the powder chamber. But such a fact, if it be a fact, appears to be immaterial. It is not pretended that these few loose grains of powder are relied on, or in fact operate, as a means of igniting the charge in the powder chamber.

Nor can we accept the contention that these two combinations are identical because they are intended to obtain the same result. What we have to consider is not whether the end sought to be effected is the same, but whether the devices or mechanical means by which the desired result is secured are the same.

We do not consider it necessary to consider a further suggestion, contained in the opinion of the court below, that, even if the relative position of the vents and the wall of the fulminate chamber be not a material part of the claimant's patent, still the claimant cannot recover because the other characteristics of his invention, found in the cartridge now used by the defendants, were introduced by them prior to the application for or issue of the patent.

The decree of the Court of Claims, dismissing the claimant's petition, is

Affirmed.

No. 198.—October Term, 1897.

William W. Hubbell, Appellant,
vs.
The United States.
} Appeal from the Court of Claims.

The petition in the above-entitled case, for a rehearing, is

Denied.

True copy.

Test:

Clerk Supreme Court, U. S.